



CASPA 華美半導體協會

CHINESE AMERICAN SEMICONDUCTOR PROFESSIONAL ASSOCIATION

華美半導體協會第三十二屆年會

CASPA 32<sup>nd</sup> Annual Conference and Dinner Banquet

***EMPOWER AI  
– HOW SEMICONDUCTORS SHAPE THE  
FUTURE OF THE WORLD***

Saturday  
Oct. 7th, 2023



## CASPA 2023 Annual Conference and Dinner Banquet



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OF THE WORLD***

**Date:** Saturday, Oct. 7<sup>th</sup>, 2023

**Annual Conference and Dinner Banquet Time:** 9:00 am to 9:30 pm

### **CASPA Officers**

**President:** Haitao (Tony) Xia

**Vice President:** Mingyu Qu

**Secretary General:** Zhibin Xiao

**CFO:** Rong Bao

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## CASPA 2023 Annual Conference and Dinner Banquet

# About CASPA

**Chinese American Semiconductor Professional Association (CASPA)** was founded in 1991. CASPA has developed into the largest Chinese American semiconductor professional organization worldwide. It is an officially registered non-profit organization with both the Internal Revenue Service and the State of California in the United State of America.

### CASPA Charters

1. Provide networking platform and business expansion for the benefit of corporate sponsors and individual members.
2. Promote technology innovation in the Semiconductor and related high-tech industries, bridge the communication in technology and business development between Pacific Regions of US and Asia within the professional community.
3. Facilitate collaboration and communication among professionals and companies in the semiconductor and related industries in the forms of Symposiums, workshops, delegation trips and publications. Assist corporate members in talent recruiting and individual members in career development with job fairs.
4. Promote the brand and welfare of the Corporate and individual members. Strengthen the professional bond between corporate members and individual members, and increase their public image, professionalism, and influence.

### Organization

CASPA consists of individual members, corporate sponsors, board of directors, board of volunteers, board of advisors, and honorary advisors. The board of directors (BOD) is elected by CASPA members with a two-year term in annual conference. BOD consists of 20 members including Chairperson/President, Vice President, Secretary General, Chief Financial Officer, Chief Information Officer, and heads of functional groups. Every year, a Vice President is elected from all qualified candidates within the BOD. The Vice President becomes the Chairperson & President of CASPA in the following year to guarantee continuity of leadership. The board of advisors consists of the current year's chairperson and six former chairpersons. In addition, there have been 6 Honorary Advisors since 2000. Headquartered in Silicon Valley, California, CASPA has 11 local chapters worldwide: Albany New York; Austin & Dallas Texas; Phoenix Arizona; Portland Oregon; San Diego California; HsinChu Taiwan, Pearl River Delta (Hong Kong, ShenZhen, Guangzhou), Shanghai, Beijing and Singapore. CASPA also forms alliance with other Silicon Valley associations to cross promote welfare and events within members of CASPA and alliances. In addition, CASPA has a strong alliance base with 3 globally influential professional organizations SEMI, GSA and IEEE. CASPA also has media alliance with SingTao Daily, World Journal, DingdingTV, SVIEF, U-channel and Tritiger Media.

### Memberships

Currently CASPA has more than six thousand individual members covering multiple disciplines. Most of them are working in semiconductor or related high-tech companies in Silicon Valley, Southern California, Oregon, Washington, Arizona, Texas, New York, Asia. CASPA also has more than 70 corporate sponsors, including chip and system design and manufacture, EDA, IDM, foundry, packaging /testing, venture capital, science and technology development parks, legal and financial service companies located in the United States and Asia-Pacific.

### CASPA's Activities

1. Conferences, Symposiums, Seminars and Workshops
2. International and domestic Job Fairs
3. CASPA delegations to Asia Pacific countries
4. Hosting delegations from Asia, and other Asia Pacific countries
5. Social programs including corporation mixer, volunteer mixer and special summer program
6. Annual Conference and Dinner Banquet
7. Board of Director meeting bi-monthly

### CASPA's Publications

1. Semi-monthly eLetters
2. CASPA Yearbook
3. Conference proceedings in Spring & Summer Symposium and Annual Conference
4. Event proceedings for delegation

## 2023 ACDB Agenda

Empower AI - How Semiconductors Shape the Future of the World (CASPA Oct 7th 2023 Annual Conference & Dinner Banquet)	
<b>Annual Conference Morning Session</b>	
08:45	Registration & Networking
09:15	CASPA Science Fair Young Volunteer Award
09:25	CASPA BOD Election
10:00	Welcome from CASPA President
10:05	<b>Kaylee Yang</b> , <i>Partner</i> , Norton Rose Fulbright US LLP <i>Challenges Faced by the Semiconductor Companies under the Current U.S. Regulations and the Solutions</i>
10:35	Startup Pitch
12:15	Lunch Break
<b>Annual Conference Afternoon Session</b>	
12:30	Registration & Networking
13:00	Welcome from CASPA President
13:10	<b>John Chen</b> , <i>VP</i> , NVIDIA <i>Semiconductor in Artificial Intelligence Era</i>
13:35	<b>Kunle Olukotun</b> , <i>Co-Founder &amp; Chief Technologist</i> , SambaNova <i>Accelerating Future Foundation Models with Reconfigurable Dataflow</i>
14:00	<b>Steven Woo</b> , <i>Fellow &amp; Distinguished Inventor</i> , Rambus <i>Challenges for Future AI Memory Systems</i>
14:25	<b>Dipti Vachani</b> , <i>SVP &amp; GM</i> , ARM <i>Building the Future of AI, Together</i>
14:50	<b>Cliff Young</b> , <i>TPU Architect</i> , Google Deepmind <i>Codesign from Semiconductors to AI</i>
15:15	Panel Discussion (Moderator: <b>Chloe Ma</b> , <i>VP</i> , ARM)
	<b>Li Zheng</b> , <i>CEO</i> , JCET & STATS ChipPAC <b>Hao Zhong</b> , <i>Co-Founder &amp; CEO</i> , ScaleFlux <b>Glenn Ge</b> , <i>Co-Founder &amp; CEO</i> , Tetramem <b>Weifeng Zhang</b> , <i>Chief Architect &amp; VP of Software</i> , Lightelligence <b>Bin Fan</b> , <i>Chief Architect &amp; VP of Open Source</i> , Alluxio
16:45	Closing Remark
12:30	Registration & Networking
<b>Dinner Banquet</b>	
16:30	Guest Check-in
17:30	Banquet Sitting
18:15	Welcome Speech
18:30	Dinner Service
19:30	President Speech, CASPA Power Transition, New President Speech
19:50	Nvidia Video
20:00	Fireside Chat with Jensen
20:45	CASPA Scholarship Award - High School Student Scholarship
21:00	Adjourn & Networking

## CASPA 2023 Annual Conference Committee



Zhibin Xiao, Ph.D, 肖志斌

*Chairman and MC of the Annual Conference*

Dr. Zhibin Xiao has 16-year of chip architecture design experiences on CPU/DSP, AI and database accelerators with over 15+ papers and 10+ US patents. Currently, Dr. Xiao is the co-founder and Chief Architect of Moffett AI. He is currently the lead of the hardware and software architecture team of Moffett AI, where he leads the development of Sparse AI Accelerators and Systems.

Dr. Xiao was a founding team member of Alibaba cloud chip business unit and has built the Alibaba's first AI inference chip, Hanguang 800, as the AI chip architect and Research Scientist. Before Alibaba, he worked in Oracle as Principal Engineer in the Software in-Silicon Team, building several generations of in-memory database accelerator (DAX) inside SPARC CPU chip.

Dr. Xiao received his BS and MS degrees from the Chu Kochen Honors College and Electrical Engineering Department, Zhejiang University in 2003 and 2006, respectively. Dr. Xiao earned his PhD degree in Computer Engineering from University of California, Davis in 2012. Dr. Xiao is on the CASPA executive board of directors since 2018.



William Kou. 顧威

*MC of the Dinner Banquet*

William Kou currently serves as the VP of Sales at Expedera, a Silicon Valley startup that provides AI and machine learning silicon IP to customers who design their own ASICs.

Prior to Expedera, he held sales and sales management positions at proteanTecs, GUC, UMC, Chartered (now Global Foundries), and Lattice Semiconductor.

Early in his career, William spent twelve years working at IBM in various positions such as engineering, consulting, and sales, and he had experience working with technologies including networking, storage, software, and microelectronics.

William received MS in electrical engineering (with a minor in computer science) from the University of Minnesota, and BS in electrical engineering from the Ohio State University.

He has been an active board member at the Chinese-American Semiconductor Professional Association (CASPA ) since 2008.

## 2023 Event Calendar

Events	Date
<b>Symposium</b>	
2023 CASPA Spring Symposium	03/25/2023 (Sat)
2023 CASPA Summer Symposium	08/26/2023 (Sat)
2023 CASPA Annual Conference & Dinner Banquet	10/07/2023 (Sat)
<b>Tradeshow</b>	
DesignCon Conference, Santa Clara, CA	01/31/2023 – 02/02/2023
SEMICON CHINA, Shanghai, China	06/29/2023 – 07/01/2023
SEMICON WEST, San Francisco, CA	07/11/2023 – 07/13/2023
SEMICON TAIWAN, Taipei, Taiwan	09/06/2023 – 09/08/2023
<b>Seminars and Workshops</b>	
Law Seminar	11/27/2022 (Sat)
Law Seminar	01/14/2023 (Sat)
Special Interest Group I	02/25/2023 (Sat)
Job Fair Workshop I	03/18/2023 (Sat)
Financial Seminar	04/22/2023 (Sat)
Job Fair Workshop II	05/06/2023 (Sat)
Special Interest Group II	05/27/2023 (Sat)
Special Interest Group III	08/12/2023 (Sat)
<b>Science and Engineering Fair</b>	
CASPA Science and Engineering Fair (SEF2023) Kick-off Day	06/17/2023 (Sat)
CASPA Science and Engineering Fair (SEF2023) Showcase Day	08/05/2023 (Sat)
<b>International Delegation Trips</b>	
CASPA 2023 Singapore Delegation (Singapore)	10/01/2023 – 10/05/2023
<b>Sponsors and Members Networking</b>	
Spring Corporate Sponsor Mixer	03/10/2023 (Fri)
Summer Corporate Sponsor Mixer	08/18/2023 (Fri)

## Letter from the CASPA Chairman and President



Dear members, sponsors, volunteers and supporters of CASPA, As we reflect on the past year, the Chinese American Semiconductor Professional Association (CASPA) has continued to serve as a vital hub for the semiconductor community, fostering growth, collaboration, and innovation. In 2023, the society has grown to more than nine thousand members, eighty sponsors, with one hundred plus volunteers working daily at their spare time to support the CASPA activities. While witnessing CASPA to achieve a new stage at society-wise, we have also ride on the tide of the renaissance of semiconductor industry and the emerge of artificial intelligence-generated content (AIGC). The leadership team has organized

a great many events to promote technology innovation, and make substantial strides in enhancing our members' understanding of the everevolving world of semiconductors and artificial intelligence (AI). Here is a summary of our key events: 1. Law Seminar: Navigating New US Regulations (200+ Participants) In response to the rapidly changing regulatory landscape affecting our industry, CASPA organized a highly informative law seminar that brought together over 200 professionals. Our experts provided valuable insights on how semiconductor companies and professionals can successfully navigate the new US regulations, ensuring compliance and facilitating continued growth. 2. Special Interest Group Seminar: EDA Tool Challenges (170+ Participants) Our special interest group seminar on EDA tools attracted more than 170 participants and featured an engaging panel discussion. We delved deep into the opportunities and challenges faced by professionals in the Electronic Design Automation (EDA) field, addressing critical issues that shape the semiconductor industry's future. Furthermore, how the introduction of AI reshaped the design world. 3. High-Tech Job Fairs: A Platform for Talent (100+ Job Opportunities and 300+ Participants) CASPA continued to bridge the gap between talented professionals and industry-leading companies like TSMC and ARM through our High-Tech Job Fairs. These events career opportunities and for companies to recruit top talent. 4. Spring Symposium: Automotive Semiconductors Mega-Trends (200+ Participants) Our Spring Symposium explored "Mega-trends in Automotive Semiconductors and Beyond" and gathered over 200 attendees. We examined the crucial role of semiconductors in shaping the automotive industry's future, setting the stage for further innovation in this rapidly evolving sector. 5. Science and Engineering Fair: Inspiring the Next Generation CASPA's commitment to nurturing the next generation of semiconductor professionals remained unwavering. Through our Science and Engineering Fair series, we provided our next generation students with a platform to explore their interests in semiconductors, fostering a passion for technology among our future leaders. 6. Summer Symposium: Harnessing AI's Power in Semiconductor (150+ Participants In-person) Our Summer Symposium was a resounding success with almost 200 participants in person and online. This event highlighted the pivotal role of AI in the semiconductor industry. We believe that these two technologies can amplify each other's potential, driving innovation and efficiency in an





## CASPA 2023 Annual Conference and Dinner Banquet

increasingly AI-driven world. The future holds immense promise for the synergy between semiconductors and artificial intelligence (AI). CASPA envisions a year ahead filled with exciting developments and opportunities in these interconnected fields. Here are our expectations for the coming year:

1. **Expanding Our Reach** CASPA will continue to expand its outreach efforts, encouraging more professionals and the younger generation to join and contribute to the Chinese American semiconductor industry. We will strive to create a diverse and inclusive community that fosters collaboration and innovation.
2. **Educational Initiatives** In the coming year, CASPA will focus on educational initiatives, offering workshops, seminars, and mentorship programs to equip our members with the knowledge and skills needed to excel in the semiconductor and AI fields.
3. **Advocacy and Networking** We will intensify our efforts to advocate for the interests of our members and facilitate networking opportunities that connect professionals and companies within the semiconductor and AI sectors. As we look ahead, CASPA remains committed to being a driving force in the Chinese American semiconductor community, shaping the future of technology through innovation, collaboration, and education. We invite all professionals and aspiring talents to join us in this exciting journey of discovery and growth. In closing, we extend a warm invitation to all professionals, students, and enthusiasts to join CASPA in our mission to advance the Chinese American semiconductor industry. Together, we can shape the future of technology, drive innovation, and foster collaboration between semiconductors and AI. By becoming a part of our vibrant community, you'll have the opportunity to connect with like-minded individuals, access valuable resources, and contribute to the industry's growth and development. Whether you are an experienced professional or a young talent eager to explore the world of semiconductors, CASPA welcomes you with open arms. Join us in the pursuit of excellence, as we continue to be at the forefront of technological advancements and work towards a brighter future. Thank you for your unwavering support, and we look forward to an exciting year ahead.

Haitao (Tony) Xia, Ph. D  
President, CASPA!

## Letter from the CASPA Vice President



Greetings to the entire CASPA community,

As I pen down my thoughts for this year of CASPA journey, I'm reminded of the illustrious history of CASPA, the dedication of its members, and the perseverance we've collectively displayed. Being only the third woman to take up a leadership role in our 32-year journey, I am both humbled and inspired.

The significance of women in leadership is profound, not only because of the diversity of thought and perspective they bring but also for the beacon of hope they light for young aspiring

professionals. Every time a woman breaks a barrier, she lays down a brick of possibility for countless others. It's a legacy of resilience, courage, and transformation.

This year has been monumental for many reasons. We faced challenges, adapted to changes, and celebrated successes. But for me, personally, it has been about hearing those unheard voices, understanding the nuances of our community's needs, and weaving together a tapestry of unity, ambition, and perseverance.

Our journey has never been about gender but about capability, determination, and passion. Yet, acknowledging the unique challenges that women leaders have faced and continue to face is paramount. My predecessors, both male and female, have set a high bar, and it's a privilege to follow in their footsteps.

To every CASPA member, know that your strengths, your dreams, and your aspirations are what drive this association forward. We are an embodiment of shared goals, shared challenges, and shared successes. Let's keep fostering an environment where talent knows no gender, where dreams know no bounds, and where our legacy is defined by our contributions, not our titles.

As we move forward, I am optimistic about what the future holds for us, for the doors we will open, and the ceilings we will shatter. Here's to celebrating not just the past and the present, but the boundless potential of our future.

With gratitude and pride,

Mingyu Qu  
Vice President, CASPA  
2022-2023

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# CASPA 2023 Annual Conference Program

## EMPOWER AI

### – HOW SEMICONDUCTORS SHAPE THE FUTURE OF THE WORLD



## Jensen Huang

Founder, President and CEO, NVIDIA

Jensen Huang founded NVIDIA in 1993 and has served since its inception as president, chief executive officer, and a member of the board of directors. Prior to founding NVIDIA, Mr. Huang held a variety of positions from 1985 to 1993 at LSI Logic Corp., a computer chip manufacturer, and from 1984 to 1985 at Advanced Micro Devices, Inc., a semiconductor company. In 2017, he was named Fortune's Businessperson of the Year. In 2019, Harvard Business Review ranked him No. 1 on its list of the world's 100 best-performing CEOs over the lifetime of their tenure. Mr. Huang holds a BSEE degree from Oregon State University and an MSEE degree from Stanford University.

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## Speaker 1



### **John Chen:**

Corporate Vice President of Technology and Foundry Management at NVIDIA

#### **Biography:**

John Y. Chen has been the Corporate Vice President of Technology and Foundry Management at NVIDIA since 2004. He has been responsible for working with TSMC and other foundries to get NVIDIA's new products manufactured by most advanced process technology.

Prior to that, Dr. Chen spent 10 years at TSMC, first in charge of company-wide yield improvement, and testing/packaging operation, then he created and ran the R&D at TSMC, Taiwan. Subsequently, he built and ran the Fab Operations of WaferTech in Camas, WA, the 1st TSMC wafer fab in USA. Lastly, he served as the Vice President of Business Development for TSMC.

Earlier in his career at Hughes Research Lab and Xerox Palo Alto Research Center, he has contributed more than 100 journal articles, most published by IEEE. He wrote a textbook on "CMOS Devices and Technology for VLSI," published by Prentice Hall (a part of Simon & Schuster now) in 1990. He was elected to the IEEE Fellow in 1992 for "leadership in and contributions to CMOS device and process technology".

In the 80's, he has served on the Technical Advisory Board of ITRI/ERSO, the incubator of Taiwan semiconductor industry including TSMC. In 2001, he became the board director of Cascade Inc. (Nasdaq:CSCD) for six years until the company was acquired by FormFactor. Also, he has served as a director on Monte Jade board and as technical advisors for three private companies in Silicon Valley. He is now on the advisory board of D2S.

Dr. Chen holds a B.S. in E.E. from National Taiwan University, an M.S. in E.E. from University of Maine, a Ph.D. in E.E. from UCLA, and a master's degree from the UCLA Executive Engineering Management Program. He has taught and given lectures at several universities and has been invited to give many speeches around the world.

Dr. Chen recently authored a book on "Leadership in Management," published by Nova Science Publishers, N.Y., February 2022.

### **Title: Semiconductor in Artificial Intelligence**

Abstract: This speech begins with interesting commonalities between Semiconductor & AI, followed with their synergism. The presenter will talk about the past, the present and, the future of semiconductor, semiconductor in the AI era. Since the invention of transistor and integrated circuit, the semiconductor market has grown to six “S” curves with inflection points. Today, the semiconductor is matured, but not deteriorated and no replacement. Moore’s law has ended, but Semiconductor is still growing. Scaling can hardly continue, but we can innovate with new architecture, network, device, and material. The explosion of AI not only offers a strong market pull, but also provides technology push to advance semiconductor manufacturing and IC design. This mutual reinforcement shall accelerate AI and Semiconductor to the fourth industrial revolution.

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## Speaker 2:



### **Kunle Olukotun**

Co-Founder and Chief Technologist SambaNova Systems

Kunle Olukotun is the Professor of Electrical Engineering and Computer Science at Stanford University. Olukotun is a renowned pioneer in multi-core processor design and the leader of the Stanford Hydra chip multiprocessor (CMP) research project.

As co-founder of SambaNova Systems, Olukotun has developed an AI innovation company that empowers organizations to rapidly deploy best-in-class AI solutions in days to unlock new revenue and boost operational efficiency. Prior to SambaNova Systems, Olukotun founded Afara Websystems to develop high throughput, low-power multi-core processors for server systems. The Afara multi-core processor, called Niagara, was acquired by Sun Microsystems and now powers Oracle's SPARC-based servers.

Olukotun is the Director of the Pervasive Parallel Lab and a member of the Data Analytics for What's Next (DAWN) Lab, developing infrastructure for usable machine learning. Olukotun is an ACM Fellow and IEEE Fellow for contributions to multiprocessors on a chip and multi-threaded processor design. Olukotun recently won the prestigious IEEE Computer Society's Harry H. Goode Memorial Award and was also elected to the National Academy of Engineering—one of the highest professional distinctions accorded to an engineer. Kunle received his Ph.D. in Computer Engineering from The University of Michigan

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## Title: Accelerating Future Foundation Models with Reconfigurable Dataflow

Abstract: The current paradigm for building artificial intelligence is to train a large general-purpose foundation model, such as GPT-3 to perform all tasks.

There is mounting evidence that future AI systems will be organized as a collection of specialist models. A collection of models would be more effective and efficient, would provide better privacy and security guarantees and would be easier to customize.

In this talk I will describe how SambaNova is designing accelerators based on reconfigurable dataflow that are optimized for these future AI models.

Important elements of the system include the way the memory hierarchy is designed to allow a collection of models to run concurrently and how the software and hardware combine to orchestrate the dataflow in the AI model to improve performance and efficiency.

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## Speaker 3:



**Steven Woo**

Fellow & Distinguished Inventor, Rambus

### **Biography:**

Steve Woo is a Fellow and Distinguished Inventor at Rambus Inc., working on technology and business development efforts across the company. He is currently leading research work within Rambus Labs on advanced memory systems for accelerators and computing infrastructure, and manages a team of senior architects. Since joining Rambus, Steve has worked in various roles leading architecture, technology, and performance analysis efforts, and in marketing and product planning roles leading strategy and customer programs. Steve received his PhD and MS degrees in Electrical Engineering from Stanford University, and Master of Engineering and BS Engineering degrees from Harvey Mudd College.

### **Title: Challenges for Future AI Memory Systems**

Abstract: AI has become increasingly data-centric, and memory is a critical enabler for achieving high performance. AI systems, as well as servers and mobile devices, all need higher memory bandwidths and capacities to meet the needs of future applications. But several other factors are emerging that are driving evolution in memory systems and putting new constraints on future memory systems for AI. In this talk, I'll describe some of the key challenges facing future memory systems and approaches to addressing them.



## Speaker 4



### Dipti Vachani

Senior Vice President & General Manager, Automotive Business, Arm

#### Biography:

Dipti leads the organization responsible for delivering Arm-based solutions in the transformational opportunities of automotive. Previously, Dipti served as Vice President and General Manager of the Product Management and Customer Enablement division in the IoT Group at Intel. Before that, Dipti held several leadership positions at Texas Instruments and led the creation of the company's Sitara brand of Arm MPUs.

Dipti is on the Women's Leadership Council for the Global Semiconductor Association. She holds a BS in Computer Engineering from Texas A&M, an Executive MBA degree from the University of Texas, and is a graduate of the Executive Education programs at Stanford, Harvard, and Cambridge business schools.

#### **Title: Building the Future of AI, Together**

Abstract: With the breakthrough of Generative AI, Artificial Intelligence has risen to the next level. Technology once thought impossible has now become a part of everyday life, and it's poised to become an essential requirement for billions of lives around the world. The semiconductor industry is at the center of unlocking these capabilities and it's imperative that it comes together to solve hard problems around rising complexities that threaten to derail momentum. Join Dipti as she discusses this exciting moment, and the role that this industry plays in bringing this essential technology to the world.

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## Speaker 5



**Cliff Young**

Google / Software Engineer

### **Biography:**

Cliff Young is a software engineer in Google Research, where he works on codesign for deep learning accelerators. He is one of the designers of Google's Tensor Processing Unit (TPU) and one of the founders of the MLPerf benchmark.

Previously, Cliff built special-purpose supercomputers for molecular dynamics at D. E. Shaw Research and was a Member of Technical Staff at Bell Labs. Cliff holds AB, MS, and PhD degrees in computer science from Harvard University. Cliff is a member of ACM and IEEE.

Title: Codesign from Semiconductors to AI

Abstract: We are in a new computing era of domain-specific accelerators, where Google's TPU is a visible example. Building such accelerators calls for broader codesign, not just traditional codesign at the hardware/software interface, but vertically integrated codesign that reaches up to applications and down to materials science and device physics. I'll talk about the balance between science and engineering, about how codesign works in TPUs, and I'll pose some materials challenges looking forward.

## Panel Topic: Panelist 1



**Li Zheng**

CEO, JCET & STATS ChipPAC Director of Board, Chief Executive Officer JCET

### **Biography:**

Mr. Zheng Li joined the company as Chief Executive Officer on September 9, 2019. He was appointed as a Director of the Board for JCET and certain subsidiaries of the Company on September 26, 2019.

Mr. Zheng received his Master's degree in Financial Economic Management from the University of Tokyo and Bachelor's degree in Industrial Management Engineering, Tianjin University. He has close to 30 years of experience working in IC companies in the United States, Japan, Europe and China. Prior to his current position, Mr. Zheng served as Global Senior Vice President of NXP, President of NXP Greater China, CEO of Renesas Greater China and GM of Tomen America ( a Toyota group subsidiary) Santa Clara office.

Currently, Mr. Zheng also serves as Vice Chairman of China Semiconductor Industry Association, Rotating Chairman of Packaging and Testing Branch of China Semiconductor Industry Association, Chairman on duty of National Technology Innovation Strategic Alliance for IC Assembly and Testing, and SEMI Global Board of Director. In 2022, "Institutional Investor", the leading financial rating agency in U.S., ranked Mr. Zheng as the second best CEO in the semiconductor industry in Asia (excluding Japan).

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## Panelist 2



**Hao Zhong**

Co-Founder & CEO, ScaleFlux

### **Biography:**

Dr. Hao Zhong is a passionate technology innovator and entrepreneur that has been contributing numerous cutting edge technology and product in data storage and computing industry. Since Oct 2014, Hao, as the CEO, co-founded ScaleFlux that is leading the computational storage subsystem development in the industry.

Prior to ScaleFlux, Hao was a Sr. Director at Fusion-io where he led the flash memory technology team and enabled LDPC technology in industry leading PCIe SSDs. Prior to Fusion-io, Hao was with SandForce as an engineering director working on SSD controller chips. Prior to SandForce, Hao was an architect at LSI working on hard disk drive read channel technology. Hao received his Ph.D degree from Rensselaer Polytechnic Institute.

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## Panelist 3



### Glenn Ge

Co-Founder & CEO, Tetramem

#### Biography:

Dr. Glenn Ge is the CEO and co-founder of TetraMem Inc., a leading Silicon Valley startup in AI acceleration. With a decade of experience in the semiconductor sector, he has contributed to numerous product innovations. He boasts around 800 global patent filings, stemming from over 300 US/PCT patent families, many of which are now in mass production. Dr. Ge holds three Master's degrees, including an MBA from the University of Michigan's Ross School of Business, and a Ph.D. in Electrical Engineering from Nanyang Technological University, Singapore.

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## Panelist 4



### **Weifeng Zhang**

Chief Architect & VP of Software, Lightelligence

#### **Biography:**

Dr. Weifeng Zhang is the Chief Architect and VP of Software at Lightelligence Inc, responsible for system architecture, hardware software co-design, and software infrastructure to empower optical computing and interconnect technologies. Prior to joining Lightelligence, Weifeng was a Sr. Director of Alibaba Group and the Chief Scientist of Heterogeneous Computing at Alibaba Cloud Infrastructure. He was a founding member of the Board of Directors at MLCommons™ (MLPerf™) and currently serves as the Tech Chair of AI Co-Design Workgroup at Open Computing Project Foundation (OCP). He co-founded the HiPChips organization and co-chaired the International Workshop of High Performance Chiplet and Interconnect Architectures (HiPChips) at ISCA-2022 in New York, HPCA-2023 in Montreal, and ISCA-2023 in Orlando, respectively. Weifeng received his PhD in Computer Science from University of California, San Diego (UCSD).

## Panelist 5



### Bin Fan

Chief Architect & VP of Open Source, Alluxio

#### Biography:

Dr. Weifeng Zhang is the Chief Architect and VP of Software at Lightelligence Inc, responsible for system architecture, hardware software co-design, and software infrastructure to empower optical computing and interconnect technologies. Prior to joining Lightelligence, Weifeng was a Sr. Director of Alibaba Group and the Chief Scientist of Heterogeneous Computing at Alibaba Cloud Infrastructure. He was a founding member of the Board of Directors at MLCommons™ (MLPerf™) and currently serves as the Tech Chair of AI Co-Design Workgroup at Open Computing Project Foundation (OCP). He co-founded the HiPChips organization and co-chaired the International Workshop of High Performance Chiplet and Interconnect Architectures (HiPChips) at ISCA-2022 in New York, HPCA-2023 in Montreal, and ISCA-2023 in Orlando, respectively. Weifeng received his PhD in Computer Science from University of California, San Diego (UCSD).

## CASPA 2023 Student Scholarship Recipients

	Student First Name	Student Last Name	Student Chinese Name	Name of High School Attending
1	Wei Chi	Yao	姚威圻	Cupertino High School
2	Valerie	Huang	黃玟臻	Saint Francis High School
3	Katelynn	Han	韓悅昕	Cupertino High School
4	Alexander	Xia	夏钰丰	Saint Francis High School
5	Annie	Hua	华久安	Los Altos High School
6	Christina	Huang	田玥婷	Evergreen Valley High School
7	Christopher	Liu	刘轩语	Homestead High School
8	Yuming	Huang	黄钰茗	Homestead High School
9	Marcus	Chan	陳任馳	Irvington High School
10	Sophia	Lu	呂倩敏	Saint Francis High School
11	Stephen	Liu	刘嘉乐	Burlingame High School
12	Kaden	Qu	瞿奕伦	Evergreen Valley High School
13	Elise	Kou	顾优美	Mountain View High School





Valerie Huang, 黃玟臻  
Father: Te-Chou (Anthony) Huang  
Mother: ChihMei (Millie) Hsu  
Saint Francis High School

I had been dedicated to doing abacus and mental math for the majority of my life, starting as a mere first grader to a freshman in high-school. This long investment provided a strong guidance in my development throughout school, making me comfortable with math and the endless possibilities from STEM that involved combining numbers and symbols. At the time, when I would sit at my teacher's house with a smile anticipating a new advancement or holding a golden trophy at international competitions, I didn't know that this hobby would develop and have such an impactful influence on my character. The perseverance and determination that got me through frustrating, long nights of assignments reflected into a strong mind that drives me to not give up on a task until I have entirely exhausted my capabilities. This approach – combining resilience with my interest in STEM subjects – sparked my initial lean towards engineering.

I am interested in the materials science field, as it enables me to engage in the semiconductor business since it incorporates my interest in chemical and materials science with the ability to travel back to Taiwan – a big semiconductor, wafer making country. Combined with this is my fascination with chemistry – how chemical elements and formulas can integrate into everyday life through man-made and even naturally caused products.

To further pursue my interest in science and chemistry is my involvement as a member of the Lancer Science Olympiad Club, which has helped me explore the implementation of learned knowledge to solve problems and build experiments; for example, I participated in both chem lab and forensics which required chemistry knowledge to determine which and when to use certain tools and chemicals. There were other events that I attended such as trajectory or ping pong parachute which required application of physics. The ability for me to utilize my resources, incorporate a wide range of sciences, and physically engineer new prototypes enabled me to intertwine creativity and teamwork, further improving myself as I learn from other's skills and get to expand my own through teaching others.

With my sparked interest in the semiconductor wafer world, I started dedicating time to researching this topic and attended UCSC Cosmos semiconductor materials and device engineering. There, I had the opportunity to learn about basic P-N junctions, advancing my math knowledge, and taking college-level chemistry and physics lessons. With my enriched knowledge of the mechanics of transistors in the atomic and human world and building solar cells, I applied my lessons to my summer research on minimizing dark current in photodiodes. Upon my research, I found that many methods to do; however, decreasing trap density seems most promising and I hope to continue this research in college. Being able to come up with a solution would be beneficial

as organic photodiodes have great potential in communications and medical uses due to their photodetection performance and low-cost.

During this summer break, I traveled back to Taiwan and got to visit a wafer making factory. After learning all the processes of cutting and developing ingots with chemical elements such as silicon, I realized how much chemical and material science plays into the manufacturing of essential pieces for today's technology. This increased my interest in STEM as I now get to see how knowledge material from school is implemented into real-life applications. I want to be able to continue my curiosity in the materials science engineering field and semiconductors industry during college. I look forward to developing my skills and gaining more hands-on experiences to contribute to the advancement of society.

While cultivating my engineering and STEM related skills are necessary, continually improving my character is also important. I have been volunteering at Friends for Children with Special Needs for the past four years, starting as a student volunteer and advancing to team leader during my second year for my planning and commitment – furthering my leadership and role model skills. Oftentimes, while having to juggle my workload and others when creating scheduling, I also shouldered critiques that parents and teachers had. However, I always find it uplifting when I see my coordination bear fruit, shown by the progression of the kids that we tutor. Getting to develop interpersonal relationships, ranging from elementary to high schoolers, has enabled me to educate myself on how their conditions may affect their thought processes though they may have the same end result. Additionally, I often guide my teammates through difficult situations such as students refusing to work or if a teammate is acting unfairly towards a student. This has driven me to innovate solutions to accommodate different needs – providing me with both an outlet for creativity and empathy.

Being part of these activities made me interested in continuing to advance my STEM knowledge and has allowed me to be part of the National Honors Society and California Scholarship Federation. Here, I am able to contribute to my school community as a chemistry tutor, TA, and volunteer around school-wide activities to share my passion for STEM with others.



Katelynn Han, 韩悦昕  
Father: Zhiyi (Jeff) Han  
Mother: Ke Lu  
Cupertino High School

My name is Katelynn Han and I am currently a senior at Cupertino High School. My father, Zhiyi Han, is a lifetime member of Caspa and he was also a CASPA BOD 13 years ago. He used to work

for Maxim Integrated Products. Inc, which merged into Analog devices Inc recently. The courses that I'm currently taking are AP Government and Economy, AP Literature, AP Environmental Science, AP Statistics, Art 3, and I am also a teacher assistant for my Physics C teacher. I'm very interested in STEM, as reflected by my courses. In particular, I'm very interested in STEM fields that produce tangible and aesthetically pleasing products, such as web design, game development, software development, etc. And although my transcript consists heavily of STEM based classes, I am also extremely interested in the arts, specifically, painting, dancing, music, etc, hence why I took an art class my Junior and Senior years. I find that my strength as a student comes from the fact that I am multidisciplinary and can think from many different perspectives and pull from my experience from multiple fields.

I believe I should be awarded the CASPA student scholarship because of not just my strong skills in STEM, but also my people, artistic and creative skills.

Throughout high school, I've refined my leadership skills through continued practice with networking and pushing myself outside of my comfort zone. For example, I was the Captain for my school's Marching Band's Color Guard team. Given our school's competitive climate, the Captain position was a highly contested title, so it was natural for there to be some negative energy surrounding me receiving the position instead of my peers. Through last year, I learned to walk the thin line of maintaining my relationships with my friends and putting my foot down and being the assertive character in certain situations. These hardships helped to refine me into a more professional and confident person, which is helping me a lot in the leadership roles that I'm currently holding (homecoming choreographer, KASA Lead Choreographer).

Transitioning onto the topic of my artistic side, over the summer of 2023, I decided to work on a project related to semiconductors to learn more about computer engineering. After learning more about semiconductors from my father, I began working on an Adder showing the current running through the circuit and going through the logic gates. Originally, I was going to make the visual with red and green lines (representing the current and whether it was off or on, respectively) to keep things simple. But as I started brainstorming the visual on paper, I realized that the wires resembled roads while the logic gates looked like houses. Why not make the visual more appealing? So, I made doodles of a dirt road to creating animations of flowers sprouting out of it. As a nature lover, I proceeded to make the entire program into an 8-bit, game-like animation with a forest theme. I represented the flow of the current with an elf-like girl that produced red or green foliage under her feet and designed the logic gates to appear wood-like to match my theme. I created the visuals using procreate and imported them onto my computer where I used JavaFx for programming. I designed the program using a framework that modeled greenfoot, and built the project in eclipse. Figuring out how to get plants to sprout out from the elves' feet and how to handle junctions was the most exciting part. For the plant animations, I decided to have the path detect the elf's current color (red or green) upon collision and then start the sprouting animation with that color. For the junctions, I assigned the task of redirecting current flow to the path. The junction is pre-assigned possible directions that the current will be redirected in (north, east, south or west) and creates more elves based on the number of directions set to it. This project, which originally started as a way to learn about semiconductors and electrical engineering, turned into a creative endeavor where I was able to forge my experience in animation, game design, and coding, into a tangible and visually appealing product. This project displays my passion towards art, and computer science, and how I learned to tie the two interests together to create a visual that accurately represents something tangible.

In short, I believe I deserve the CASPA student scholarship not just because of my strong STEM background but also my abilities to perform well in fields that are vastly different. My multidisciplinary skills help me to creative innovate and my leadership experience helps me to work well in teams and also helps me to network.



Alexander Xia, 夏钰丰  
Father: Renxin Xia  
Mother: Anlin Xu  
Saint Francis High School

Instead of relaxing by the beach or hanging out with friends, I spent my past two summers interning at the Mary M. and Sash A. Spencer Center for Vision Research at Stanford University Medical School under Prof. Sui Wang. Those were four of the most meaningful and educational months of my life. Before going to the lab, I was expecting a big operation like you so often see in movies. I thought there'd be bright lights and clean rooms and a giant and tall central opening in the middle of a massive complex. I couldn't wait to play with all the fancy machines, see cells growing, make brand new strands of DNA, and further the entire medical field all on my own. So, not entirely realistic expectations for a highschooler with no experience, but needless to say I was excited. I've always wanted to experience first-hand how real science was conducted. I'd learned about all these techniques and processes in the classroom, but they always felt distant to me. I wanted to see them in action with my own eyes and perform them with my own hands. The first time I entered the lab, I was somewhat underwhelmed. The lab was in a modern building with a couple fancy machines I did not know the purpose of at the time, but the scale felt small. I expected a ginormous and hyper-organized operation with hundreds of people, but the lab barely had ten people and was full of unlabeled tubes and ancient looking equipment. It didn't take long for me to realize that this was all that was needed to make breakthroughs in science. I started off following the lab technician, who was also named Alex and a Saint Francis alumni, to learn basic cloning techniques. I had to learn the basics before I got my own project to work on. I shadowed Alex for weeks, learning premises and procedures of techniques for manipulating and amplifying DNA in cells, and I even got to do some procedures with mice. Along the way, I picked up many habits I could only have learned in the lab. For example, putting caps facing upwards on the table, changing pipette tips between uses, and putting gloves on quickly were all things I never thought would matter, but are crucial for preventing cross-contamination and fundamental to good science. During these first few weeks, I learned the importance of precision and discipline. Missing a single step or doing something in the wrong order meant weeks or even months (if working with animals) of work down the drain, and contamination can lead to cascading incorrect results and conclusions. Finally, after a month, I got my first project. Sophia, a postgrad at the lab, was conducting an experiment on genes which can reverse cell differentiation to create Neural Progenitor Cells, which can then turn into other needed cells like photoreceptors. Basically, we were trying to create DNA that

would let the retina heal itself. To figure out which gene works the best, she needed each gene to be active in a certain type of cell to control for everything else. My job was to splice together DNA so that it had the right promoter separately paired with each of the genes of interest. After discussing with Professor Wang about my general plan, I set off on this journey. It started off great, and I got through the first two major steps, ligation and transformation, without a hitch. However, at the final step of DNA purification, things went south. My cell plates refused to grow. I had no idea why. I tried growing plates multiple times, even 3 repeating everything from the beginning stock DNA, but nothing worked. I hypothesized there was an issue with the new plates that Alex prepared before he went on vacation, so I borrowed working plates from a neighboring lab and successfully grew the colonies. However, when Alex got back and took one look at the original plates, he spotted a bunch of colonies that I simply missed. That was embarrassing, but I also learned something valuable: there are people with much more experience than I, so it's important to always double-check my work with experts. I also learned the benefits of making connections with others. When I thought I was stuck, another highschooler I just met from the neighboring lab lent me his plates so I could continue with my experiment. I satisfied my biggest curiosity of how real research is conducted by doing it myself. My internship at Dr. Wang's lab taught me not only scientific techniques, but openness to opinions and seeking help from others, the pipeline from idea to experiment to results, and the hard work that's needed to keep pushing science. I am very proud I made a real contribution to potentially restoring future patients' vision as I am co-authoring a paper based on our research, which was submitted for review. I now have a lot more respect for scientists tirelessly working for potentially life-saving new research, and I have both the knowledge and experience in real-world science to support me in any field in the future.



Annie Hua, 华久安  
Father: Chiwei Hua  
Mother: Kaiyu Ren  
Los Altos High School

At the local gelato shop, the girl serving my ice cream paused and told me that my nails were super cute. I was pleasantly surprised, and so I thanked her. I had done thin, light-blue French tips over short, almond-shaped nails with a soft blush-pink base coat. 3D bows and hearts adorned the nails on each hand.

I used to look at my hands and feel incredibly ashamed of my bad habits. When I took piano lessons, I would hide my hands beneath my legs during breaks. My piano teacher would pull my

hands out from their safe haven and inspect them, often commenting on how my hands were “ugly” and that I should stop biting my nails. The thought that she was right about my hands polluted my self-perception. The hangnails and frayed cuticles bore witness to my piano teacher’s sharp words. Comparing my hands to others, I saw how delicate and elegant other people’s hands looked. Subconsciously, I internalized this viewpoint and began to see my hands through my instructor’s lens. Embarrassment left me with a desire to hide the narrative that my nails portrayed.

Oftentimes, I would scroll Pinterest, stumbling upon many cute nail designs. However, I feared going to the nail salon. I was convinced that the nail technicians would cast a judgemental gaze when they saw the state of my nails. This internal debate resulted in me thinking: What’s stopping me from painting my own nails? My creative instincts led me on a journey of self-expression and self-confidence. I began to gather my materials, flipping through YouTube videos on DIY manicures and scrolling through Amazon. Coincidentally, my dad had given me a set of gel nail polish for my birthday, which I dug up from the bottom of my bookshelf drawer. I began doing my own nails, and over time, my designs and techniques improved from practice. While the learning curve was steep, my artistic and technical abilities evolved over time. My nail-biting habits also subsided, as I didn’t want to destroy my hard work.

My struggles with self-image led me to the discovery that I could solve problems with a creative mindset. My confidence evolved as my skills improved-- nail art was the perfect outlet for self-expression as well as self-love. A newfound sense of pride overcame my negative self-perception through my ability to innovate. Utilizing my artistic background, I not only decorated my own nails but also embarked on a path of self-discovery. Though the candid compliment from the girl at the gelato shop was short and sweet, it served as a quiet affirmation of my long journey. My hands and nails used to serve as a source of self-consciousness, but now they are a testament to my transformation and growth. Venturing beyond familiarity is what emboldens artists like me to design distinctive and lively creations. I took the opportunity to improve myself through my piano teacher’s critiques. Similarly, I now see criticism as more than some harsh words-- but as an opportunity to innovate and learn new ways to solve problems.

In conclusion, my journey from self-doubt to self-confidence highlights my resilience and creative problem-solving skills. As an aspiring art major, this scholarship represents more than simply supporting someone financially, but also in supporting a young artist’s dreams and desire to overcome challenges. Beyond financial assistance, granting me this scholarship will echo my strong will to keep pursuing art and even help others in achieving their aspirations in the future. Enabling me to further pursue my education aligns with both my academic and artistic goals, ultimately fostering a vibrant community of future artists. It is an honor to be considered for this scholarship— I firmly believe that this scholarship will provide support for my dedication to my craft and relentless pursuit of self-improvement.



Christina Huang, 田玥婷  
Father: Zhiyu Tian  
Mother: Xiaomin Huang  
Evergreen Valley High School

In my elementary-school notebook there are 8 pages scrawled with dozens of tic-tac-toe boards. That was my prized, ultimate guide to tic-tac-toe, sorted by the three types of first moves in a tic-tac-toe game – the middle, the side, or the corner, figured out by hours of playing against myself.

I'd always loved puzzles, figuring things out, the feeling when seemingly-complicated problems start unraveling themselves. In middle school I joined our school's math club, where I got to see how problems could so flawlessly fall apart into elegant solutions. I fully threw myself into mathematics. The tempering of my patience, persistence, and creativity through math led me to the middle school MathCounts team, which only recruited the top 4 people out of the club's population of more than 50 students. My love for competition math extended to high school, where I self-studied AP Calculus AB in freshman year, placing me as the only sophomore in a class of juniors and seniors, and qualified for AIME with distinction twice, placing me in the top 5% of the nation's test-takers and as one of the strongest in my high school.

But my greatest accomplishment in math was a change in the way I thought. While before I only ever acted on my curiosities alone, my tic-tac-toe guide drawn out through games played with myself and no-one else, I learned to talk with others and found solutions so beautiful that I could have never imagined alone.

I realized I liked math, and solving puzzles, because of one reason: It forced me to shift the way I looked at things in diverse ways. When solving a problem, I had to ask a dozen "What ifs?" When doing math with others, I proposed ideas others hadn't thought of, and solved problems with ideas I hadn't thought of. We built off each others' ideas, explained confusing parts to each other, and shared in that "oh!" moment when we collectively figured out a particularly difficult problem.

I wanted to take the kind of thinking I learned from math to everything around me. This led me to physics, where I transferred my ability to constantly look from different perspectives to question the physical world. Thanks to this, I was able to enter the California State Summer School for Mathematics and Science (COSMOS), a selective program for top science students. There, we learned about condensed matter physics. I created programs to represent lattice structures commonly found in materials, such as the honeycomb, square, and 2D chain, and used those programs to generate the density of states graphs of those materials. At the end of the program, my team and I successfully built a Scanning Tunneling Microscope, which could make images of individual atoms on graphene.

My growth at COSMOS exponentiated on the lessons I gained through math and reaffirmed my interest in pursuing physics and engineering. I loved the problem-solving ability I gained from

math, but I became increasingly fascinated by its use in physical properties, how they could represent the real world, how different materials could be used to further technology.

My ability to problem-solve also tied into my ability to work with others on problems, build onto others' ideas and exchange my own. For example, one lunch I kept mulling on a problem: If I had a material with a honeycomb lattice, such as graphene, I wanted to simulate the movement of electrons based on their probabilities of being at certain positions. As I worked it out, I stumbled on an interesting topic I remembered a classmate brought up, so I went to her for her perspective. Thanks to my ability to teamwork with different ideas, we emerged from the problem with an idea for an elegant solution.

My experience at COSMOS then led me to a research internship affiliated with Stanford's Linear Accelerator Center (SLAC), where I helped develop a non-destructive diagnostic using synchrotron radiation, to be used for dark sector physics, and co-authored a paper that will later be published in the International Beam Instrumentation Conference. There, I learned to think like the fellow PhD students and professors that surrounded me. I learned at a rapid-quick pace, the problem-solving skills I developed from early high school allowing me to contribute meaningfully to the project.

I also became leader, hoping to bring the joy of STEM to other younger students. My enthusiasm for physics also elected me as the co-president of my school's Physics Club, where I enrolled the school, for the first time ever, in the Association of American Physics Teachers' Physics Photo Contest. I also co-hosted the People of Physics Event, which allowed speakers in the field to detail their career trajectory in physics and engineering. I also served as the Astronomy Club's president for two years, where I increased the number of sign-ups by more than 20 people and hosted popular stargazing nights.

My experience in STEM taught me the ability to question different modes of thinking, an ability to lead and work with others, and, most of all, a love of problem-solving. In the future, I hope to work in the overlap between electrical engineering and condensed matter physics. I believe these two fields represent the future direction of technological advancement. They also happen to be where my keen interest lies – since I will always be a problem-solver.



Christopher Liu, 刘轩语  
Father: Changzheng Liu  
Mother: Zhiyu Zong  
Homestead High School



One of the activities that consumes most of my free time is my DIY aquaponics system, tucked away in the corner of my backyard. This thriving ecosystem combines the cultivation of fish with the growth of plants in a perfectly balanced dance of water, sunlight, and nutrients. This project represents my lifelong interest in ecology, engineering, and sustainability.

At its center lies a three-hundred-gallon stock tank, a glistening oasis that brings water and life to the system. Within the tank resides a group of thirty Nila Tilapia, a fast-growing fish that is hardy and delicious. They consume the fish food I provide and transform it into organic fertilizer for the plants. Above the water's surface, a complex network of pipes and filters intricately crisscross, pumping fish nutrients and water to the grow bins. These bins are filled with LECA, a porous clay material ideal for plant growth. Towering tomato vines stretch skyward, laden with sweet, juicy tomatoes, while leafy greens like lettuce, kale, and spinach flourish, their roots delving deep into the clay as their leaves unfurl to absorb energy from the sun. These plants serve a dual purpose: they're not only a food source for us, but also absorb all the nutrients and waste from the fish, effectively purifying the water as it returns to the fish tank.

Designing and building my backyard aquaponics system was a journey of creativity, innovative thinking, and hands-on work. It all began with a dream of cultivating a self-sufficient and environmentally friendly food source. The first step in this exciting venture was envisioning the system's layout and components. I conducted extensive research, drawing inspiration from various aquaponic designs on Pinterest. This conceptualization phase involved endless sketching of ideas, jotting down essential requirements, and setting precise project goals.

Selecting the ideal location for the aquaponics system was crucial. I needed an area with adequate sunlight for plant growth but not so much that it would cause issues like algae blooms. I also had to consider nearby tree growth, ensuring that loose twigs and leaves wouldn't fall into the reservoir and foul the water.

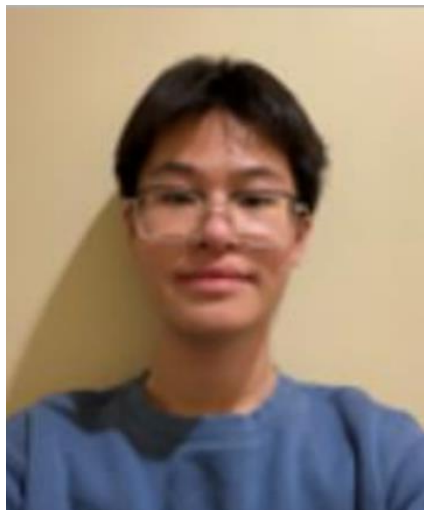
With a clear plan in mind, I began gathering my materials. This included sourcing a sturdy fish tank, plumbing supplies, grow beds, pipes, and more pipes. Most of these materials I found online or at local hardware stores, but for some, I scoured classified ads. While searching for a filter for the reservoir, I stumbled upon a valuable Craigslist listing. The owner turned out to be a middle school teacher with a keen interest in aquaponics. I left not only with the filter but also with a wealth of knowledge from his years of experience in the field.

Building the system itself was an engineering project that demanded patience and precision. The fish tank served as the centerpiece, both as the aquatic habitat for my tilapia and as a reference point for construction. I set up the plumbing and filtration system to ensure a continuous flow of water through the grow beds, meticulously connecting pipes and checking for leaks. One challenge during construction was system calibration. It was hard to fine-tune the water flow, monitor nutrient levels, and adjust the pH to optimum levels. Initially, I encountered issues like algae blooms, plant wilting, and slow fish growth, but overcoming these challenges and learning to maintain this delicate system proved to be a rewarding experience.

Through the creation of the aquaponics system, I've not only gained knowledge in environmental science, biology, and engineering but also discovered a passion for working with children. As I

designed the various grow beds and reservoirs, my ten-year-old sister displayed a deep curiosity and asked countless questions. Answering her inquiries made me realize my desire to work with kids and help them learn. To pursue this passion, I founded an organization called "Alternative Education", which focuses on providing children and their families with opportunities to engage in fun and interactive games and activities designed to foster a positive interest in STEM within our community, particularly among underprivileged children. We hosted STEM festivals in local schools, community centers, libraries, and city events, where I led a team of over twenty volunteers, introducing puzzles, games, and exciting STEM concepts to children. Additionally, I started an assistant Badminton coaching position, teaching young students in both group and private lessons.

My backyard project not only provides my family and me with a fresh source of organic produce and fish every month but, more importantly, I've taken away practical lessons in innovation and problem-solving. It has also allowed me to discover my passion for working with children and giving back to the community.



Marcus Chan, 陳任馳  
Father: Kai Keung Chan  
Mother: Shao Hui Hsu  
Irvington High School

Growing up, I have always been a curious person. I would always take apart pens and other little gadgets to see and understand how they work, then try to put them back together or create something else entirely. This curiosity grew from tinkering with simple pens to eventually taking apart and repairing my own phone screen. Being able to tinker and create something and understand these new concepts brought immense joy to me and fostered a growing interest in engineering within me. As I grew up, more and more technological innovations came out such as robotic prosthetic limbs and the DaVinci surgery robot. I remember finding these inventions fascinating and thinking to myself, I want to create something similar in the future. Along with this, I have been exposed to many STEM-related fields growing up, whether it be in science labs or observing family and friends, many of whom are doctors and engineers. This sparked my interest in the intersection of technology and biology towards furthering the field of public health. This interest led me to take engineering courses in school and join robotics and rocketry teams to cultivate my growing interest in engineering. While in these teams, I discovered a talent for hardware design and hands-on building, which I attribute to my curious nature that stems from

tinkering with gadgets when I was younger. Using this skill, I was able to co-lead my robotics team's hardware design, and design and build a robot for the First Tech Challenge (FTC). I was also informed about a nonprofit which taught and tutored low-income families about STEM and robotics from a family friend from church. Taking this opportunity, I contacted and coordinated with the nonprofit AskSME to advise and teach robotics to students K-12 aspiring to do FTC themselves. I have also held a leadership position within my rocketry team, leading the marketing competition and working alongside others in the designing and building of our team's model rocket. While working on the marketing competition, I coordinated with different members in a variety of advocacy and outreach efforts to spread knowledge about rocketry. Along with these extracurricular achievements, I was fortunate enough to be accepted into the Stanford Summer Science Internship Program, where I studied under Professor Yanmin Yang in neurodegenerative diseases. More specifically, I studied microtubule dynamics in relation to cell viability and neurodegenerative diseases. Coming into the program, I was nervous as I did not know anyone there, but that ended up being a blessing as I met many new people from all over the world who shared similar interests. Taking the initiative, I organized and became the group leader of one of four groups within the program. As group leader, I helped coordinate and organize different assignments within the group along with the creation of our group's lab report presentation. This experience strengthened my interest in biology and my plan to go into biomedical engineering, the combination of my two interests. Along with my interests in biology and engineering, I plan on going into the medical field, specifically within the subfield of biomedical engineering, because of personal experience with family members suffering from Alzheimer's and Lymphatic Cancer. I vividly recall the painful feeling of seeing my grandparents suffering from these diseases and not being able to do anything but hope for the best. What hurt even more was seeing my parents and other family members being so somber and hopeless. That further strengthened my desire to go into medicine to try to prevent such things from happening to others. Additionally, I already have some experience learning and working with Alzheimer's which further cements my decision to focus on the medical field. For these reasons, in the future, I plan to research and design new medical innovations and instruments to help better the lives of people suffering from neurodegenerative diseases and cancer.



Sophia Lu, 呂倩敏  
Father: Avery Lu  
Mother: Daphne Chu  
Saint Francis High School

I can still remember leaving behind childhood friends from my public school, and being a new person at a private school. As I walked into the classroom Freshmen year at Saint Francis High School, I was greeted by the warm smile of my teacher, a stark contrast to the cold shoulder cliques and competitive looks of the other students as I shuffled to my new seat. Being the top student at my previous schools didn't prepare me for the challenges ahead with my new classmates in private school who participated in the best sport clubs since they were toddlers, were tutored AP and SAT since middle school, and were academically 2 years ahead of me.

Although I was considered an above average in height as an Asian girl, I found myself in a sea of blonde hair, Division 1, athletic, 14-year old female classmates who were already 6 feet tall. At first, I felt intimidated by them, doubting that I would have had an opportunity to participate and prove myself in any sports, but I turned this self-doubt into a challenge to explore other opportunities. Even though I wasn't playing in a Division 1 team, I was playing amongst Division 1 athletic classmates. As a result, I became a starter and an assistant volleyball coach at a top volleyball sports club. My athletic abilities helped opened doors for me to be on the track & field team, swim team, and led me to become a swim instructor and lifeguard at a nearby swim school. My discipline and hard work was finally recognized, and I was recommended and nominated by my coach and peers by a sweeping margin to become the first Asian American/Chinese American head varsity captain of my school's cheerleading squad advocating for my teammates, amongst a team of award winning, athletic cheerleaders who've been training over the last 3 years.

Mental health had a profound affect on me especially during and after shelter-in-place for COVID. I became one of the founding members for 2 youth mental health organizations - Bring Change to Mind and the MAY initiative.

At first, it was discouraging to see the Chinese community associating only with Chinese as first language speakers and STEM majors. This all shifted after I was encouraged to become an executive board member for my school's Asian Student Association (ASA), to help unify, not divide our Asian American community. After the pandemic, student involvement and membership deteriorated, especially with the rising concern of Sinophobia against Asians. My focus was to make ASA a safe environment for Asian Diasporic Americans to share their ethnically diverse cultures of the Eastern continent. I worked on social media posts and advertising, planned fun events, and built greater awareness of other Asian ethnic groups. I am proud to see the results of my hard work as ASA has grown to more than 300 student members.

At the end of my junior year, advocating for solidarity in the Asian community was how I planned to make that difference I had been looking for. Soon after, I found out about Asian Pacific Islander American Public Affairs Association (APAPA), a national organization that brings together Asian Americans in advocacy and representation at the local, state and federal government levels of American government. This summer, I became the youngest and only high school intern at Contra Costa County District Attorney Diana Becton's office serving in their Victim and Witness Unit. There, I got to see firsthand what it is like to devote oneself to a life of service, community and social justice. I created a brand new comprehensive resource shelter guide to crime victims in need of housing, as shelter resources are really hard to come by in Contra Costa County.

I am a graduate of Georgetown University Law Center's Early Outreach Initiative and am currently an Instagram influencer with 2 product endorsements. I plan to pursue a career involving social justice and public policy with a possible minor in marketing.

In the wise words of renowned film director Steven Spielberg, "Sometimes a dream almost whispers...So you have to every day of your lives be ready to hear what whispers in your ear; it very rarely shouts." So, whenever I am having a hard time, I remember to look back at the very first day of private high school and think of when my dream was only a whisper. I think about all the moments that have led me to this point, and how I never stopped listening to that faint whispering that was my calling...social justice.



Stephen Liu, 刘嘉乐  
Father: Fei Liu  
Mother: Li Yao  
Burlingame High School

Hi, my name is Stephen Liu and I am a senior attending Burlingame High School I hope to pursue business in college. My journey towards this major was shaped by my upbringing, which heavily focused on logical reasoning and entrepreneurship. As I begin my application process to move on to the next chapter of my life I would be honored to be awarded a CASPA Student Scholarship. Throughout my upbringing, I always had a strong inclination towards business as I always overheard my parents discussing the stock market and real estate. Early in my high school year I became infatuated with entrepreneurship and frequently looked for ways to re-sell second-hand items to make a profit. It was with this re-selling hobby that I found my passion in business. During my high school career, I began pursuing my interest by investing in cryptocurrencies and NFTs. I also continued my side hustle of re-selling second-hand items for a profit on platforms such as Facebook Marketplace and Craigslist. These experiences didn't just enhance my hands-on know-how; they also solidified my conviction in the ability of entrepreneurship to get a sense of the ins and outs of entrepreneurship and business. Academically I pursued my interest by attending Community College courses in both Small Business Management as well as Interpersonal communication both courses which challenged me to think on a deeper level about the intricacies of Business. This upcoming Fall semester, I am eagerly enrolled in an International Business course at my local Community College, further expanding my knowledge base in the field. Bundled with all of this I am also a member of my school's Common Cents investing club which

is a club centered around teaching students to be financially literate in order to make smart decisions with assets in their future. My involvement in this club has not only enriched my understanding of financial management but has also instilled in me a strong sense of responsibility toward fiscal prudence. I understand that business is not only a rigorous major to select but it can also become costly, especially at many top private institutions. I fully understand that pursuing a business degree, especially at esteemed private institutions, can come with substantial financial challenges. The CASPA Student Scholarship would be a substantial financial lifeline, helping to ease the financial strain that often accompanies higher education. With this scholarship's support, I would be able to wholeheartedly dedicate myself to my chosen career path, without the constant concern for financial constraints. In the world of business, my ultimate aspiration is to create businesses that serve people around the globe and contribute to making the world a better place. I firmly believe that the principles of entrepreneurship and sound business practices can be harnessed to address pressing global challenges. When my time comes, I hope to leave a lasting, net-positive impact on the world through my business ventures, and I am determined to use my inclination toward business as a force for good. To wrap up, my path to pursuing a business major has been defined by my unyielding commitment, real-world experiences, and a firm conviction in the profound impact of business. I am genuinely appreciative of the chance to seek the CASPA Student Scholarship, as it would not just alleviate the financial pressures of my education but also empower me to persist in my pursuit of a future enriched by business. I extend my heartfelt gratitude for taking the time to consider my application and for endorsing my aspirations within the realm of business.



Kaden Qu, 瞿奕伦  
Father: Ting Qu  
Mother: Jiyan Li  
Evergreen Valley High School



Elise Kou, 顾优美  
Father: William Kou  
Mother: Christine Roed  
Mountain View High School



Wei Chi Yao, 姚威圻  
Father: Tai Wei Yau  
Mother: Ching Min Ho  
Cupertino High School



Yuming Huang, 黄钰茗  
Father: Yongcan Huang  
Mother: Yifeng Lin  
Homestead High School



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