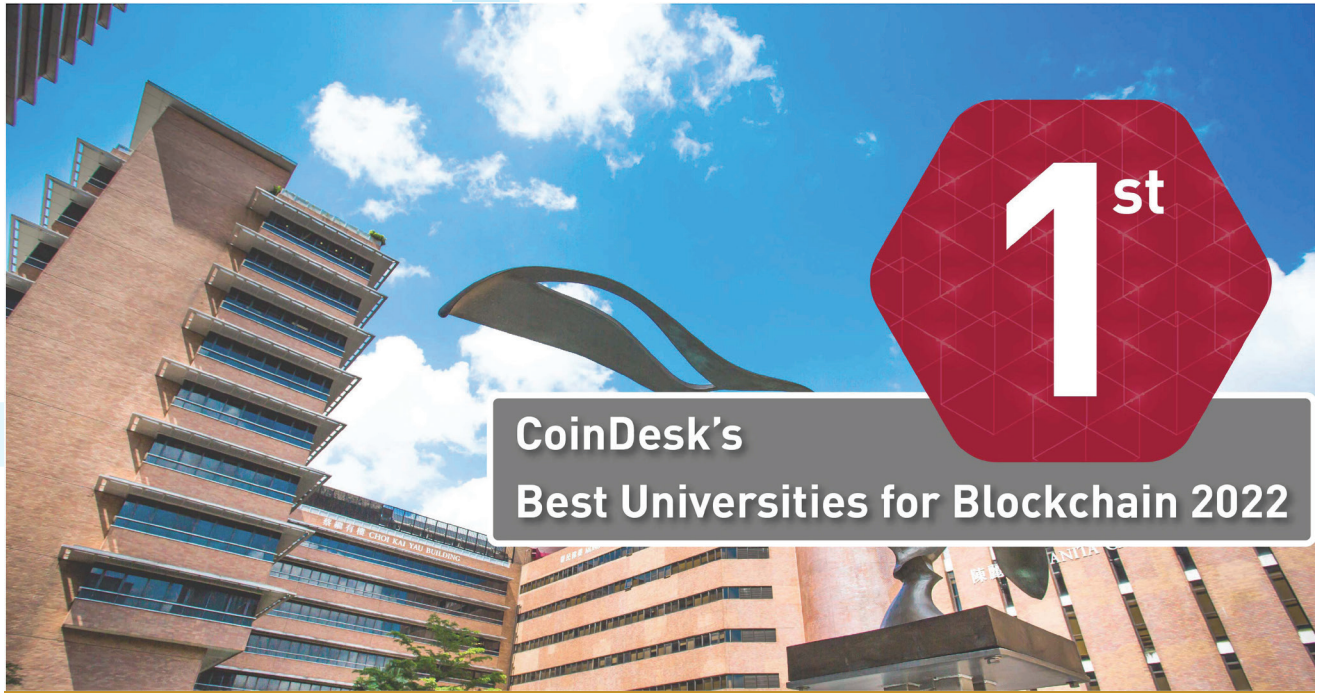


COMP @ NEWS

Autumn 2022



CoinDesk recently announced the 2022 ranking of the 50 universities with the biggest impact on blockchain. More than 240 universities and institutions were examined based on four categories: scholarly impact, campus blockchain offerings, employment and industry outcomes and academic reputation.

Among all categories, PolyU ranked strongly in scholarly impact, campus blockchain offerings and academic reputation. In 2022, PolyU recorded the highest number of publications of blockchain research papers and citations. COMP offers the first **MSc in Blockchain Technology programme** in Hong Kong, and has established the first **Research Centre for Blockchain Technology** which covers comprehensive blockchain techniques and cross-disciplinary research.

CoinDesk is the leader in news and information on cryptocurrency, digital assets and the future of money, which is a media outlet that strives for the highest journalistic standards and abides by a strict set of editorial policies.

PEOPLE @ COMP
Tons of Inspiration in Every Story

*We will interview COMP members and share their stories with you.
Inside story of Mr Sky Tang continued on page 5*

AWARDS & ACHIEVEMENTS

2022 IEEE Education Society William E. Sayle II Award for Achievement in Education



We are glad to announce that **Dr Henry Chan**, our Associate Professor and Associate Head (Partnership and Collaboration) has been selected as the recipient of the **2022 IEEE Education Society William E. Sayle II Award for Achievement in Education** with the following citation: for contributions to computing education and to the development of the TALE

conference. As one of the major awards of the IEEE Education Society (EdSoc), the award recognises significant contributions over a period of years in the fields of interest to EdSoc.

IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. Founded in 1957, EdSoc is one of the oldest technical societies in the IEEE. It is an international organisation with a worldwide community of professionals dedicated to ensuring high-quality education in science and engineering. It promotes, advances, and disseminates state-of-the-art scientific information and resources related to the EdSoc's field of interest and provides professional development opportunities for academic and industry professionals.

ISSTA is the leading research symposium on software testing and analysis, bringing together academics, industrial researchers, and practitioners to exchange new ideas, problems, and experience on how to analyse and test software systems.

ACM SIGSOFT Distinguished Paper Award

Our Associate Professor **Dr Daniel Luo** and his PhD students **Mr Zhou Hao** and **Mr Wu Shuohan** received the **ACM SIGSOFT Distinguished Paper Award** with the paper titled "NCScope: Hardware-Assisted Analyzer for Native Code in Android Apps" at the 31st edition of ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA). Other collaborators of this paper come from Pennsylvania State University, Zhejiang University, Tsinghua University, and Washington State University.



The paper proposes and develops a novel hardware-assisted analyzer for native code in apps. The research team leverages ETM, a hardware feature of ARM platform, and eBPF, a kernel component of Android system, to collect real execution traces and relevant memory data of target apps, and design new methods to scrutinise native code according to the collected data. To show the unique capability of NCScope, the team applies it to four applications that cannot be accomplished by existing tools, including systematic studies on self-protection and anti-analysis mechanisms implemented in native code of apps, analysis of memory corruption in native code, and identification of performance differences between functions in native code. The results uncover that only 26.8% of the analysed financial apps implement self-protection methods in native code, implying that the security of financial apps is far from expected. Meanwhile, 78.3% of the malicious apps under analysis have anti-analysis behaviours, suggesting that NCScope is very useful to malware analysis. Moreover, NCScope can effectively detect bugs in native code and identify performance differences.

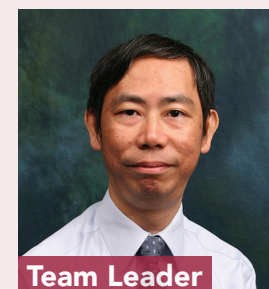
Faculty Awards for Outstanding Achievement 2022

Congratulations to the following staff members on receiving the Faculty Awards for Outstanding Achievement 2022. This truly reflects the great efforts and contributions made by them.

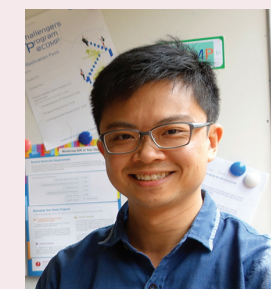
The winners of the Faculty Awards for Outstanding Achievement are chosen by a Faculty Assessment Panel, comprising the Heads (or their delegates) and chaired by the Dean of Faculty of Engineering (FENG), from amongst a pool of well-qualified nominees put forward by individual departments under FENG. The selection is made with reference to the indicative criteria for assessment as laid down by the University for the exercise.

Outstanding Award

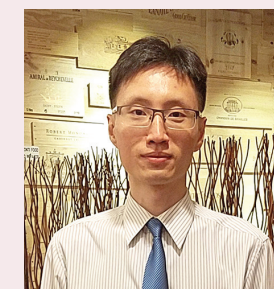
Faculty Award in Teaching (Team)



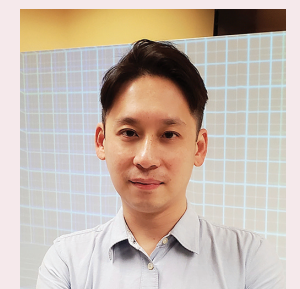
Team Leader
Dr LEONG Hong Va
Associate Professor
and Associate Head
(Teaching and Learning)



Dr Dennis LIU
Teaching Fellow



Dr Richard LUI
Teaching Fellow



Dr Peter NG
Teaching Fellow

Merit Award (Individual)

Research and Scholarly Activities: Outstanding Researcher



Prof. GUO Song
Professor

Research and Scholarly Activities: Outstanding Young Researcher



Dr WU Xiaoming
Associate Professor

Faculty Award in Service



Dr Henry CHAN
Associate Professor
and Associate Head
(Partnership & Collaboration)



IEEE Computational Intelligence Society Final Year Project Competition 2022



To identify outstanding final year projects in the field of computational intelligence, Hong Kong Chapter of IEEE Computational Intelligence Society organised the 19th Final Year Project Competition in August 2022.

Sweta Das, our recent graduate of BSc (Hons) in Computing, received the first runner-up award in the competition with her capstone project titled “Affective Awareness Agents in Virtual Reality”. The project aims to create an affective awareness agent, which can understand the user’s emotions from multiple input channels and make responses in support of VR.

Analysis of speech or facial expressions alone usually depicts human emotions inaccurately. The awarded project addresses these limits and examines the emotions of users with both speech and facial recognition. The speech of the user is captured in the microphone, while the facial expressions of the lower mouth are captured through the facial tracker attached to the headset. In return for the inputs, an agent replies by lip synchronising the response to the user according to the emotion analysed. The project was inspired by a few successful research projects published in academia and industry.

Dr Li Chen Richard, COMP Research Assistant Professor, is the supervisor of the project. “I am thankful to Dr Richard Li for his invaluable guidance and support throughout”, said Sweta.

GBA Blockchain Olympiad 2022

The Greater Bay Area Blockchain Olympiad (GBA IBCOL) was held virtually from 5 to 7 August 2022. The GBA IBCOL is a regional blockchain competition amongst students in Mainland China, Hong Kong SAR and Macao SAR, with sponsorship from the Innovation and Technology Commission.

Yu Tzu-Yin Claire teamed up with **Lo Yan-Suet** (Both from BSc (Hons) Financial Technology & Artificial Intelligence) to develop a project called “Blockarian – B-Safe”, which won triple awards at the competition, including the Award of Merit, Tertiary Track Award and Fintech Runner-Up.

“Blockarian – B-Safe” is an artificial intelligence app targeted at construction issues, promoting bio-friendly buildings as well as ensuring the safety of the architecture. It can provide professional advice according to the construction guidelines of different cities in the Greater Bay Area. Claire shared that the competition offered a wonderful chance to extend perspectives and absorb new information.

“Before the tournament and throughout the event, there were numerous opportunities for conversations and sharing. I gained a lot of knowledge from other teams, not just from their project ideas but also from the way they arranged and displayed the study data and created an attractive prototype,” she said. Another team member, Harriet, also said: “This programme has given me great motivation to become an entrepreneur, a role I would have never considered otherwise...Sharings from professionals in FinTech field have inspired me a lot, also enlightened me on unlimited opportunities in this field.”

On the other hand, three COMP students, **Liu Mingci**, **Ma Siqi**, and **Wang Zhuchen** (All from BSc (Hons) Financial Technology & Artificial Intelligence), together with teammates from other universities, were awarded the Award of Merit with their project “Innotar”, a blockchain-based platform for file notarization (proof of existence, ownership of a document and transfer of ownership), e-signing and verification.

The Award of Merit is the most important award in the blockchain olympiad and is designated for projects which have satisfied the minimum of a complete blockchain solution design. Top Tertiary Track Award is awarded to the project scoring over 80% from a tertiary-level academic institution. Fintech Runner-Up is given to the recognised teams in the Fintech or Financial Technology category.



Look Back on the days in PolyU Lifetime Experience of a Young GBA Entrepreneur

About Mr Tang Man-chun Sky

Sky graduated with BSc (Hons) in Enterprise Information Systems and entered the IT industry as a programmer afterwards. Few years later, he was promoted to IT manager and played an important role in the company. In 2018, Sky started his entrepreneurial journey in GBA. Through protracted efforts, his augmented reality startup, **CHUNS GROUP**, has proliferated and expanded business in Hong Kong, Dongguan and Zhuhai. In recent years, he has devoted himself to nurturing the next generations by participating in educational work.

Mr Tang Man-chun Sky, the founder of CHUNS GROUP, shared his school life at COMP and PolyU when pursuing the undergraduate degree back in the early 2010s. His success story of building an augmented reality business in the Greater Bay Area (GBA) has been widely reported by the media, but the inside story of his school time is rarely known. We are honoured to have the privilege of unmasking his stories at this critical stage.

Most memorable moments

When recalling the unforgettable memories of school, Sky's reminiscence is associated with programming, which perfectly exemplifies the life of a computing student. He and his classmates wrote a programme to draw a restaurant for lunch and create animations to celebrate birthdays. "These were the unique ways we had fun with our computing knowledge," said Sky. Another special experience was being a team member of the PolyU Chinese Debate Team, the champion team of the Inter-collegiate Debate Competition 2012. His experience in the debate team has trained his eloquence, logical thinking, out-of-the-box thinking and ability to clearly explain abstract concepts, which turn out, weapons of an entrepreneur.

Favourite COMP Subjects

Three COMP subjects influenced Sky the most. Each subject played a big part in his attachment to computing and the foundation of his career. The subject that made Sky fall in love with computing was "Data Structures and Algorithms". Even though he studied science in secondary school, he had no computing knowledge before starting university. Upon completion of this subject, Sky gradually understood the basic knowledge of computer science and gained confidence in himself.

One of his business focuses is targeting the root of the client's problem and providing specialised solutions. His knowledge obtained from the subjects "Knowledge and Information Management" and "Business Process and Workflow Management" contributes greatly to his business solutions. "The subjects taught me how to identify and address problems and make a proper judgement," he continued, "Our company does not offer IT software alone but goes one step further – integration. I learnt from my undergraduate programme the skills of integrating IT solutions into the business operation and workflow, which streamlines the whole business process and delivers a real IT solution".

Dr Walter Fung shares...

"I know Sky Tang when he approached me to discuss his final year project. It happened that his earlier part-time work experience with the government matched my need, on how knowledge management can be integrated with business. His final year project was done well with some insights we even would discuss again in later years. Sky then started his career by working as a technical specialist in some established companies. He asked me whether he should start his own company and I gave good encouragement. His AR business has some success in Hong Kong and then he targeted China. It was a difficult journey when most Hong Kong young professionals still hesitate to enter China. I witnessed he had a good breakthrough and I am proud of what he has been doing in recent years. Not only has he grown the business in Hong Kong and China, but he has also contributed effort and time to education for young people and shared his view of being an entrepreneur. In long future, I believe he can achieve more, for the good of Hong Kong, China and the world".



Teacher, Mentor, Advisor

Inspired by **Dr Walter FUNG**, our Teaching Fellow, Sky finds his interest in entrepreneurship. He described Dr Fung as his advisor and mentor who generously shares his extensive knowledge acquired from the industry. Sky said he had a limited understanding of mainland China before starting his startup, and Dr Fung is literally the one who helps him to open the window to China and the world. He is also grateful that Dr Fung has given him the courage to embark on the road to entrepreneurship.



Life-changing decision

Many may not understand Sky's bold step of starting a new business outside his hometown when his career in Hong Kong was soaring. He explained that the main reason behind this life-changing decision was passion pursuit and encouragement of friends. Sky sees huge development potential in GBA and then fully leverages the unique advantages of Hong Kong graduates to grasp the opportunities GBA provides. "GBA offers young people more and greater room for career development. Universities in Hong Kong ranked high globally, and students usually have an international outlook and are more capable of absorbing overseas research studies. The creativity and management skills shown in Hong Kong graduates also differentiate themselves," he said.

Sky gives some suggestions to COMP students who wish to work in GBA. First, be open-minded and try to accept different cultures. Secondly, expand the social network by participating in various activities and maintain good relationships with teaching staff and alumni. Thirdly, grab every chance to learn and work in GBA during university study, for example, exchange and internship opportunities. Last but not least, study hard and equip themselves with the skills necessary for a computing professional.

Scholarship for COMP undergraduate students

In the academic year 22/23, Sky will sponsor the "Tang Man Chun Entrepreneurship Learning Scholarship for three COMP undergraduate students. Students will learn from Sky both his success and failure stories in the entrepreneurship learning activities. Through the talks, he wishes to inspire students to accept failures as part of life and help them avoid entrepreneurial landmines. The scholarships will go to the students who demonstrate an entrepreneurial spirit and unwavering and perseverant devotion. Superb problem-solving skills, the ability to learn from failures and self-discipline are also essential attributes that the prospective awardees should possess.

“*Try not to do what you excel,
but excel what you try to do.*
- Sky”

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CTMA

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Certificate

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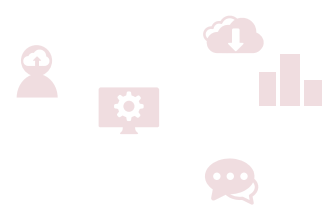
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AML FOUNDATIONS

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RESEARCH EXCELLENCE



Cooperation Agreement Signing Ceremony of “PolyU-OPPO Joint Innovation Lab”

On 22 September 2022, a cooperation agreement signing ceremony was held between PolyU and Guangdong OPPO Mobile Telecommunications Corp., Ltd (OPPO). The establishment of the “PolyU-OPPO Joint Innovation Lab” (Joint Lab) was in response to the national strategy of Greater Bay Area (GBA) development and to promote the Guangdong-Hong Kong collaboration.


The cooperation agreement was signed by **Prof. Christopher Chao**, Vice President (Research and Innovation) and **Mr Levin Liu**, OPPO Vice President and President of OPPO Research Institute during a video conference officiating the launch of the Joint Lab. **Prof. Zhang Lei**, COMP Chair Professor, will be the Joint Lab’s director on behalf of the University. **Ir Prof. H.C. Man**, Dean of Faculty of Engineering and **Prof. Li Qing**, Chair Professor and Head of Department, also delivered speeches in the ceremony as the officiating guests.

The Joint Lab aims to foster knowledge exchange, cultivate high-level scientific research talents and share research outcomes by the venture. It will be the leading force in catalysing the academia-industry cooperation as well as the innovation technology development in GBA. The laboratory will focus on joint research projects including AI-driven computational imaging and its chipisation, computer vision, immersive multimedia and AR/VR technology.



Distinguished Seminar Series on Data Science & Artificial Intelligence

Co-organised with the PolyU Research Centre on Data Science and Artificial Intelligence (RC-DSAI), we have launched a Distinguished Seminar Series on Data Science and Artificial Intelligence since March 2021. World-renowned scholars were invited to share the latest technological development of data science and artificial intelligence with us.



Prof. Irwin King
Chairman and Professor
Department of Computer Science and Engineering
The Chinese University of Hong Kong

16 Sep 2022

**“Social Recommendations—
A Historical Perspective and Recent
Advancements”**

Research Seminar

To keep our academic staff members and students up-to-date with the leading-edge technical knowledge in computing related disciplines, as well as assist them in gaining exposure to broad range of research topics, COMP regularly invites scholars of different specialisations’ to present their latest research findings.

Date	Seminar Topic	Speaker	Institution
26 Aug 2022	AI Powered Edge Scheduling	Prof. Jia Weijia	Beijing Normal University (BNU-Zhuhai) BNU-HKBU United International College (UIC), Zhuhai, Chin
29 Aug 2022	Blended Learning and Intervention in Metaverse (Strategy, Implementation, and Evaluation)	Dr Peter Ng	Department of Computing The Hong Kong Polytechnic University
16 Sep 2022	Knowledge Graph Construction and Fusion: Challenges and Solutions	Dr Wen Hua	School of Information Technology and Electrical Engineering, University of Queensland, Australia

EVENT HIGHLIGHTS

PolyU Two-day University Experience Programme 2022

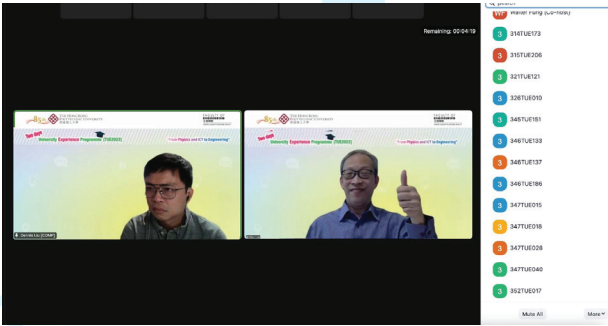


The Two Days University Experience (TUE) Programme organised by Faculty of Engineering was held virtually on 16 and 17 August 2022. “From Physics and ICT to Engineering” was the theme this year which aimed at imitating the university study experience by providing lectures to secondary 4 or 5 students taking Science, ICT or M1/ M2 subjects and who are interested in engineering study.

Dr Henry Chan, Associate Professor and Associate Head of COMP, and **Dr Peter Ng**, our Teaching Fellow, delivered a lecture on computing and game technologies and brought a virtual laboratory tour to 139 participants, letting students to had a glance at the department facilities.

49 students joined the breakout room session on the second day of the programme. **Dr Walter Fung** and **Dr Dennis Liu**, Teaching Fellows of COMP, interacted with the participants and provided first-hand information on study planning.

TUE Programme offered potential secondary students a valuable glimpse into university learning and to engage with university academics during the summertime. Different departments from FENG jointly delivered a series of thematic online lectures and quizzes in seven fields of engineering.



PolyU InnoTech Open Day 2022

PolyU InnoTech Open Day was smoothly held at the campus on 16 July 2022. Being one of the signature events of PolyU’s 85th Anniversary celebrations, the InnoTech Open Day has showcased the university’s endeavours in interdisciplinary research, innovation, knowledge transfer and entrepreneurship. In the afternoon session, face-to-face student consultations, info seminars about PolyU’s academic programmes etc., were arranged for visitors, especially JUPAS applicants and their parents.

Our staff members joined the booth of the Faculty of Engineering to provide study advice and comprehensive information on the programmes offered by COMP. Hundreds of visitors had lively interactions and fruitful exchanges with our academic staff. On the other hand, to further promote the new programme hosted by COMP, namely “Artificial Intelligence and Data Analytics (AIDA)”, **Dr Leong Hong-va**, our Associate Professor and Associate Head (Teaching & Learning), was invited to deliver two informative talks with full house participation.

Starting from the 2022/23 academic year, PolyU will introduce two new programme elements, providing students with more flexible study options and helping them to enhance their competitiveness. AIDA is one of the new programmes that will be incorporated into the General University Requirements, and students can also study AIDA as a Secondary Major or a Minor.



Undergraduate Orientation 2022

COMP Undergraduate Orientation Session was held on 25 August to welcome new students for the academic year 2022/23. Over 150 freshmen attended the hybrid orientation on campus or joined the live streaming on Zoom. The session was hosted by Dr Hong-va Leong, our Associate Professor and Associate Head (Teaching & Learning), at the same time the scheme leader of the undergraduate programmes.

At the beginning of the event, **Ir Prof. HC Man**, Dean of Faculty of Engineering, introduced our faculty to the students. **Prof. Qing Li**, Chair Professor and Head of COMP, then welcomed the students and encouraged them to explore different opportunities the university offers. Students learnt about the academic advising system, learning supports, internship programmes and resources and services for COMP students. They also met their first-year subject lecturers and their academic advisors at the event.

The second part of the orientation was conducted in the virtual gathering space, namely Gather Town COMP Space, where students and their academic advisors e-met at virtual offices, participated in team-building games and had a joyful afternoon.



Taught Postgraduate Orientation 2022



COMP organised a hybrid MSc Orientation Session on 27 August at PolyU, drawing over 130 new students to participate. **Dr Korris Chung**, Associate Professor and MSc Scheme Leader, warmly welcomed the students.

Immediate after the overview of the Department and the MSc Scheme delivered by Dr Chung, the programme leader of MSc in Information Technology, **Dr Ken Yiu**, Associate Professor, introduced the programme requirement and study plans. The study information for MSc in Blockchain Technology, a new programme commencing in the academic year 2022/23, was presented by the programme leader **Dr Daniel Luo**, Associate Professor. To provide more guidelines on dissertations and projects for students who wish to pursue research after graduation, **Dr Wang Qixin**, Associate Professor, gave helpful advice in this area. The orientation session also covered an overview of the Department's resources and facilities.

The orientation was concluded successfully with a responsive and interactive Q&A session. We hope the orientation will help students to get prepared for their new start

ALUMNI CORNER

Alumni Homecoming cum Alumni Award Presentation Ceremony

The COMP Alumni Homecoming cum Alumni Award Presentation Ceremony held on 17 September 2022 at PolyU Alumni Atrium was concluded in an atmosphere of happiness and warmth. It was also organised in celebration of the 85th anniversary of PolyU. More than 60 alumni and their families, and our current and former faculty members reunited at the event.

The homecoming event was kicked started with the opening remarks by **Prof. LI Qing**, Chair Professor and Head of COMP, and **Prof. CAO Jiannong**, Dean of Graduate School and former Department Head. They are grateful for the achievements of our alumni and wish to deepen the connections further. After the opening remarks, **Dr Henry CHAN**, Associate Professor and Associate Head in Partnership and Collaboration, presented the updates and recent alumni work to the guests.

Two alumni were invited to deliver speeches at the event. **Mr Andy WAN** shared his feeling about receiving this year's Outstanding Alumni Award in "Professional Achievement" of PolyU Department of Computing, as well as his valuable experience in career development. **Mr Sky TANG** talked about how to overcome challenges in starting a business, his experience in entrepreneurship and the reasons for scholarship donation.

In recognition of the remarkable contribution and involvement of our alumni, especially the Computing Alumni Association, COMP mentors and Academic-Industry seminar speakers, the certificates of appreciation were presented to them during the event.

Engaging networking activities started immediately following the ceremony, and our guests were tested on their knowledge of PolyU and the Department. The event was wrapped up by the department tour which our guests visited different labs and teaching facilities.

The afternoon was filled with laughter and joy, where our alumni and guests rekindled old friendships and revisited fond memories.



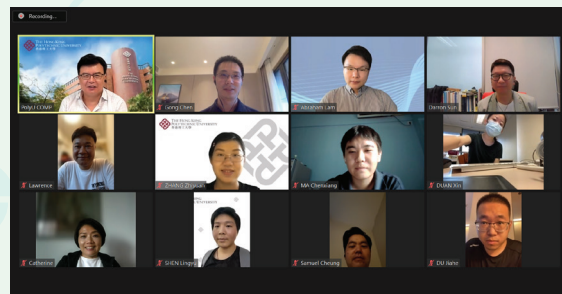
CAA x COMP Academic-Industry Seminar - Entrepreneurship

With the mission to encourage knowledge exchange between academia and industry, COMP and the Computing Alumni Association (CAA) co-organised the fifth seminar of the "COMP x CAA Academic-Industry Seminar Series" via Zoom on 18 August 2022.

The seminar was kick-started with a warm welcome by **Dr Henry Chan**, Associate Professor and Associate Head of COMP. Dr Chan then introduced **Dr Gong Chen**, who talked about the growth of AI startups in the past ten years and some hot topics that could attract potential investors. Also, Dr Chen shared his insights on future opportunities for startups.

Our outstanding alumnus, **Dr Abraham Lam**, Director & CEO of MEGA Automation Ltd, was invited to share his success story and inspiring journey of running a startup company. Abraham also discussed how to convert innovative ideas into real-world products from a business perspective.

In the wrap-up, Dr Chan summed up that the key to entrepreneurship is to identify customer needs and provide effective solutions. He suggested COMP students to consider from both the business and technological perspectives. We hope that this seminar could bring enlightening exchange and spark ideas for business ventures to our students, alumni and faculty members.



DEPARTMENT UPDATES

New Academic Staff



Dr WU Jibin
as Assistant Professor



Dr GUO Jingcai
as Research Assistant Professor



Dr YONG Hongwei
as Research Assistant Professor



Dr ZHANG Zhaorui
as Research Assistant Professor



Dr TANG Kai Tai Jeff
as Teaching Fellow

New Administrative Staff

Ms Sharon LI
as Executive Officer



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