

HANG Ching Nam

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Education

City University of Hong Kong

Ph.D. in Computer Science, 2019 - Present.

B.S. in Computer Science, Data Science Stream (First Class Honors), 2019.

University of Missouri, Columbia, USA

Big Data Analytics Summer Experience in the USA, 2017.

Research Interests

- Networks and Graph Analytics
- Data Mining and Machine Learning
- Artificial/Computational Intelligence
- Data Science/AI for Health-Tech and Ed-Tech

Publications

Journal Articles

C. N. Hang, P. -D. Yu, S. Chen, C. W. Tan and G. Chen, *MEGA: Machine Learning-Enhanced Graph Analytics for Infodemic Risk Management*, IEEE Journal of Biomedical and Health Informatics, accepted and to appear, 2023. [Impact Factor: 7.7 / 5-Year Impact Factor: 7.7] [Acceptance Rate: 14.9%]

C. N. Hang, Y. -Z. Tsai, P. -D. Yu, J. Chen and C. W. Tan, *Privacy-Enhancing Digital Contact Tracing with Machine Learning for Pandemic Response: A Comprehensive Review*, Big Data and Cognitive Computing, special issue on Digital Health and Data Analytics in Public Health, Vol. 7, No. 2, 2023. [Impact Factor: 3.7]

M. F. Wong, S. Guo, **C. N. Hang**, S. W. Ho and C. W. Tan, *Natural Language Generation and Understanding of Big Code for AI-Assisted Programming: A Review*, Entropy, special issue on Statistical Machine Learning with High-Dimensional Data and Image Analysis, Vol. 25, No. 6, 2023. [Impact Factor: 2.7 / 5-Year Impact Factor: 2.6]

Conference Papers

J. Li, C. W. Tan, **C. N. Hang** and X. Qi, *A Chatbot-Server Framework for Scalable Machine Learning Education through Crowdsourced Data*, ACM Conference on Learning at Scale, 2022.

C. W. Tan, L. Ling, P. -D. Yu, **C. N. Hang** and M. F. Wong, *Mathematics Gamification in Mobile App Software for Personalized Learning at Scale*, IEEE Integrated STEM Education Conference, 2020.

C. -Y. Kuo, **C. N. Hang**, P. -D. Yu and C. W. Tan, *Parallel Counting of Triangles in Large Graphs: Pruning and Hierarchical Clustering Algorithms*, IEEE High Performance Extreme Computing Conference, 2018. ([Honorable Mention Award](#))

Workshop Papers

C. W. Tan, S. Guo, M. F. Wong and **C. N. Hang**, *Copilot for Xcode: Exploring AI-Assisted Programming by Prompting Cloud-based Large Language Models*, IJCAI Symposium on Large Language Models (LLM@IJCAI'23), 2023.

Book Chapters

C. N. Hang, P. Yu and C. W. Tan, *Parallel Counting of Subgraphs in Large Graphs : Pruning and Hierarchical Clustering Algorithms*, in *Online Social Networks: Perspectives, Applications and Developments*, Nova Science Publishers, 2020.

M. F. Wong, **C. N. Hang** and C. W. Tan, *The Pagerank Bipartite Graph Ranking: Online Chat Group Recommendation*, in *Online Social Networks: Perspectives, Applications and Developments*, Nova Science Publishers, 2020.

Teaching

- Convex Optimization and its Applications (2021 - 2022), Teaching Assistant
- Artificial Intelligence (2019 - 2021), Teaching Assistant
- Introduction to Computer Studies (2020), Lab Tutor

Entrepreneurship

Nautilus Software Technologies Limited

Co-Founder, CEO and Senior Software Engineer, 2018 - 2022

- **Incu-Tech Incubation Programme**

Amount: HK\$1,290,000

Hong Kong Science and Technology Parks, 2020 - 2021

- **Bright Future SME's Youth Creative Entrepreneurship Award**

The Hong Kong General Chamber of Small and Medium Business, 2020

- **Incu-App Incubation Programme**

Amount: HK\$860,000

Hong Kong Science and Technology Parks, 2018 - 2020

- **Technology Start-up Support Scheme for Universities (TSSSU)**

Amount: HK\$746,667

Hong Kong Innovation and Technology Commission, 2018 - 2019

Appointments **City University of Hong Kong**

Research Assistant, 9/2023 - 10/2023

- Conduct researches on a Hong Kong Innovation and Technology Fund (ITF) project - Development of Massive Data Analytics for Rumor Source Detection and Faked News Invalidation against Infodemic
- Conduct researches on large language models

Tencent AI Lab (Shenzhen)

Machine Learning Center Research Intern, 8/2018 - 1/2019

- Conducted researches on machine learning on large graphs
- Designed and implemented algorithms to solve large graph problems
- Applied graph theory knowledge to solve large graph problems
- Developed software to handle large graph data

City University of Hong Kong

Student Assistant, 6/2017 - 7/2018

- Developed and published MathFest App and PolyMath App (Android)
- Developed software for research using Python, C++, and Java
- Assisted in promoting Julia Robinson Mathematics Festival (HK)
- Helped to promote Algebra Game in Singapore International School (HK)

Part-Time Jobs

City University of Hong Kong

Part-Time Student Assistant, 9/2018 - 6/2019

- Android application developer, maintained the MathFest App and PolyMath App (Android)
- Facilitator of Julia Robinson Mathematics Festival (HK), mentored over 100 K-12 students
- Collaboration with Shangri-La, provided research methodologies for large customer transaction dataset analysis with customer segmentation and predictive analyses

Knowledge Transfer Office of City University of Hong Kong

Part-Time Student Helper, 3/2017 - 5/2017

- Helped students to learn Mathematics through game play
- Required outstanding academic performance

Hong Kong Professional Information Security Association

Mobile App Tester, 4/2015 – 9/2015

- Tested 60 mobile apps' security issues using Burp suite
- Required good information security knowledge
- Required basic knowledge of SSL

**Awards and
Fellowships**

Outstanding Academic Performance Award (Ph.D. Studies)

City University of Hong Kong, 2023

Certificate of Merit (Undergraduate Dissertation), The Hong Kong
ICT Awards 2020: Student Innovation

The Hong Kong Association for Computer Education, 2020

Silver Award (Undergraduate Dissertation), HKEIA Innovation &
Technology Project Competition Award

Hong Kong Electronic Industries Association (HKEIA), 2019

Best Poster Presentation Award (Undergraduate Dissertation)

City University of Hong Kong, 2019

Dean's List

City University of Hong Kong, Sem A of 2016/2017 and Sem B of 2018/19

Second Place Winner, Zoonhackathon 2019: Combating Wildlife Trafficking
Through Innovation and Technology

The United States Department of State, 2019

Merit Prize and Video Award - Best Video Shooting

HSBC Future Skills Development Project - InnoTech Solutions Pitching, 2019

ASM Pacific Technology Scholarship

City University of Hong Kong, 2019

Talent Development Scholarship

HKSAR Government Scholarship Fund, 2019

Honorable Mention, MIT/Amazon/IEEE Graph Challenge 2018

Massachusetts Institute of Technology (MIT), Amazon, IEEE, 2018

Second Prize, 2018 Intel Cup Undergraduate Electronic Design Contest

Intel, 2018

Mr Clement Cheuk Scholarships

City University of Hong Kong, 2018

Shanghai Commercial Bank Scholarships

City University of Hong Kong, 2018

Microware Scholarship

City University of Hong Kong, 2018

Reaching Out Award

HKSAR Government Scholarship Fund, 2017

Excellent Academic Performance Scholarships for CSE Students

City University of Hong Kong, 2017

The Department of Computer Science Entrance Grants

City University of Hong Kong, 2017

**Professional
Services**

Program Committee Member

- *ACL 18th Workshop on Innovative Use of NLP for Building Educational Applications (BEA), 2023*

Journal Reviewer

- *Journal of Medical Internet Research (JMIR)*
- *BMC Archives of Public Health, Health Information Systems*

Vice Chairman and Director of Data Science Innovation

NASA Space Apps Challenge Hackathon in Hong Kong, 2019 - 2021

Math Facilitator

Julia Robinson Math Festival in Hong Kong, 2017 - 2019

Computer Skills	Documentation:	Microsoft Office (Word, PowerPoint, Excel)
	Web Development:	CSS, JavaScript, XML, HTML, HTML5
	Programming Language:	Java, PHP, MySQL, C++, PostgreSQL, Python, Scala, Pig Latin, Visual Basic
	Networking Technique:	Network troubleshooting, Switch configuration, Router configuration, Foundation knowledge of CCNA
	Operating System:	Linux (Fedora, Kali, CentOS), Microsoft Windows, macOS
	Software:	Visual Studio, Eclipse, Packet Tracer, Android Studio, App Inventor 2, Scratch, VMware, Visual Paradigm, MobaXterm, Oracle VM VirtualBox, Adobe Photoshop, Adobe Illustrator, Jupyter Notebook, Spyder, CVXPY, MATLAB, Hugging Face
Languages	Chinese (Written, Spoken), English (Written, Spoken), Cantonese	