

# 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 - Present*

- 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	<b>Documentation:</b>	Microsoft Office (Word, PowerPoint, Excel)
	<b>Web Development:</b>	CSS, JavaScript, XML, HTML, HTML5
	<b>Programming Language:</b>	Java, PHP, MySQL, C++, PostgreSQL, Python, Scala, Pig Latin, Visual Basic
	<b>Networking Technique:</b>	Network troubleshooting, Switch configuration, Router configuration, Foundation knowledge of CCNA
	<b>Operating System:</b>	Linux (Fedora, Kali, CentOS), Microsoft Windows, macOS
	<b>Software:</b>	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	