# Lingyun Yang (杨凌云)

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| Personal profile | Ph.D. Student<br>Department of Computer Science and Engineering<br>Hong Kong University of Science and Technology<br>Clear Water Bay, Kowloon, Hong Kong |
| Research interests | Cloud Computing, Machine Learning for Systems, Resource Management for Large-Scale GPU Clusters |

**Education**

**Hong Kong University of Science and Technology (HKUST)**
*Department of Computer Science and Engineering*
Ph.D. in Computer Science and Engineering     2020 – Present
⋄ Advisor: Prof. Wei Wang

**South China University of Technology (SCUT)**
*School of Computer Science and Engineering*
B.Eng. in Computer Science and Technology     2016 – 2020
⋄ Studied at All-English Innovation Class (*GPA: 3.82/4*)

**Professional experience**

**Alibaba Group**     Hangzhou, China
*Research Intern*, Cluster Management Group     Dec. 2020 - Present
⋄ Mentors: Jian He and Dr. Yinghao Yu
⋄ In combination with GPU virtualization technology (vGPU), developed the local agent and centralized resource ledgers for managing heterogeneous GPU resources, supported to co-locate thousands of GPU jobs of different priorities (e.g., latency-sensitive (LS), best-effort (BE)) through dynamically provisioning of GPU computing power and memory, thus significantly improving the resource utilization of large-scale GPU clusters.
⋄ Co-developed Morphling, an open-source auto-configuration framework for machine learning model serving on Kubernetes, with intelligent algorithms to quickly find the optimal configuration. [paper][code][website]

**Microsoft Research Asia (MSRA)**     Beijing, China
*Research Intern*, Innovation Engineering Group (IEG)     Jul. 2019 - Jun. 2020
⋄ Mentors: Lewei Lu and Chong Li
⋄ Applied multiple latest attention mechanisms to face recognition models, integrated with knowledge distillation, built in CNTK.
⋄ Built a neural architecture search pipeline for face recognition tasks.

| | ⋄ Designed a symmetric padding pooling layer with self-attention which can be easily integrated into any model structure, achieve the state-of-the-art performance and improve the robustness to various pertubations. |
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Publications     ⋄ Luping Wang*, **Lingyun Yang***, Yinghao Yu, Wei Wang, Bo Li, Xianchao Sun, Jian He, and Liping Zhang, "Morphling: Fast, Near-Optimal Auto-Configuration for Cloud-Native Model Serving", to appear in the *Proceedings of ACM Symposium on Cloud Computing* (**SoCC ' 21**), Seattle, WA, November 2021. (*Co-first authors in alphabetical order)

Honors and scholarships

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| ⋄ Postgraduate Scholarship | 2020 - Present, HKUST |
| ⋄ Star of Tomorrow Internship Award of Excellence | Jul. 2020, MSRA |
| ⋄ Merit Student & Excellent Student Cadre | Nov. 2019, SCUT |
| ⋄ National Scholarship | Oct. 2019, China |
| ⋄ Silver Medal, 2019 ICPC China Xi'an National Invitational Programming Contest | May 2019 |
| ⋄ First Prize, 17th Guangdong Collegiate Programming Contest | May 2019 |
| ⋄ Silver Medal, 2019 Sanqi Mutual Entertainment Cup Programming Contest | Apr. 2019 |
| ⋄ Gold Medal, 2019 South China University of Technology ACM Programming Contest | Apr. 2019 |
| ⋄ Bronze Medal, 2018 ACM-ICPC Asia Xuzhou Regional Contest | Oct. 2018 |
| ⋄ Silver Medal, 1st Xiao Mi Collegiate Programming Contest | Sept. 2018 |
| ⋄ Gold Medal, 2018 South China University of Technology ACM Programming Contest | Apr. 2018 |
| ⋄ The First Prize Scholarship | Nov. 2017, SCUT |
| ⋄ Bronze Medal, 2017 ACM-ICPC Asia Xian Regional Contest | Oct. 2017 |
| ⋄ Gold Medal, 12th China Youth Robot Competition | Jul. 2012 |
| ⋄ Champion, 2012 RoboCup Youth Robot World Cup China Division Selection Competition | Mar. 2012 |

Teaching activities

**Hong Kong University of Science and Technology**          Clear Water Bay, Kowloon, Hong Kong
*Teaching Assistant, Department of Computer Science and Engineering*

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| ⋄ CSIT6000O: Advanced Cloud Computing | Spring 2022 |
| ⋄ COMP4651: Cloud Computing and Big Data Systems | Fall 2021 |
| ⋄ COMP4651: Cloud Computing and Big Data Systems | Spring 2021 |

Other experience

**ACM-ICPC Competition Group**

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| *Group Member & Team Leader* | 2016 - 2019 |

⋄ Coach: <u>Prof. Chuhua Xian</u>
⋄ Major domains: Dynamic Programming, Number Theory, Data Structure, etc.

**Machine Learning & Cybernetics Research Group**

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| *Undergraduate Research Assistant* | 2017 - 2019 |

⋄ Advisor: <u>Prof. Patrick Chan</u>

⋄ Completed research projects: Fundus Stitching, Tableware Recognition and NN Visualization.

**Tencent Innovation Club**

*Vice Chairman* 2018 - 2019

⋄ Led the largest student club at the School of Computer Science and Engineering in SCUT, sponsored by Tencent Technology (Shenzhen) CO., LTD.

**ByteDance Summer Camp** Beijing, China

*Camper*, Algorithm track Aug. 2019

⋄ Mentor: Dr. Yibo Zhu

⋄ Totally 150 participants selected from more than 6k candidates.

⋄ Trained a large scale BERT Model by using Pipeline and Model Parallelism.

**ICMLC & ICWAPR** Chengdu, China

*Student helper* Jul. 2018

Skills        Programming Languages: C++, Python, Golang

Toolkits: Git, LaTeX, Linux Shell, Qt, MySQL, MarkDown

Languages: English (fluent), Mandarin (Native speaker)

Miscellaneous      Read various kinds of books, watch movies, play basketball, workout at the gym, play badminton, food lover.

In my spare time, I also write some blogs about interesting stuffs aperiodically. Here is my personal blog (in Chinese): https://blog.yanglingyun.me/.