

# Mike MAO

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Available for full time position upon graduation in May 2020.

## Work Experience

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**Amazon**, AI Lab, AWS, Shanghai, China May 2019 - Aug 2019  
*Software Development Engineer Intern*

- Designed and implemented several numpy-like operators with auto-gradient for open source project apache/incubator-mxnet (including argsort, hstack, dstack and invert), with C++ backend and python frontend
- Wrote the official documentation for multiple mxnet.numpy operators available to tens of thousands of users
- Re-designed and developed computational graph interface to support integer and range slicing in graph generation, enabling numpy-like smooth user experience in the highly efficient symbolic interface

**Quantum Information and Computation Initiative**, HKU, Hong Kong SAR Sep 2018 - Apr 2019  
*Research Student, Supervised by Prof. G. Chiribella*

- Jointly created the mathematical framework that characterised the superposition of two quantum channels, one paper in draft targeting Physics Review Letters
- Simulated the superposition of fully depolarising channels by numerical analysis with a C++ program, and showed its ability to enable communication under extreme noises

**YITU Technology** (an AI Unicorn), Shanghai, China May 2018 - Aug 2018  
*Software Engineer Intern in Machine Learning*

- Lowered the missing rate of a 3-class detector by over 30% while maintaining same performance (in frames/second) by replacing SSD with slimmed Faster R-CNN
- Reproduced and experimented SSD, Faster R-CNN in the TensorFlow detection API and Facebook's Detectron for internal record
- Improve training speed by more than 10% by profiling and locating the bottleneck in data augmentation.

**Société Générale**, Tech Division of IBD, Hong Kong Jun 2017 - Aug 2017  
*Software Engineer Intern*

- Added an API to internal monitoring platform (in JAVA) to facilitate easy inclusion of new servers
- Improved alert-raising system by adding auto log filtering, which saved time for support group member up to 20 minutes per day

**Jockey Club Youth EDcubator Program**, Hong Kong Mar 2017 - Sep 2017  
*Technical Consultant and Teaching Assistant*

- Helped local teachers design and conduct introductory level programming courses open to middle school students, settled a course scheme that would serve thousands of students across years

## Technical Skills

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**Programming Languages:** C++, Python, C, Java, Haskell

**Technologies and Frameworks:** Linux, Git, MXNet, Tensorflow, PyTorch, Django, Docker

## Education

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**Cornell University**, Cornell Tech, NYC, NY, United States Aug 2019 - May 2020  
*Master of Engineering in Computer Science*

**The University of Hong Kong**, Hong Kong Sep 2015 - May 2019  
*Major: Computer Science, Minor: Mathematics, First Class Honours, GPA: 3.6/4.3*

**National University of Singapore**, Singapore Jan 2018 - May 2018  
*Faculty Exchange Program, GPA: 4.75/5*

**University of California Berkeley**, Berkeley, CA, United States Jun 2016 - Aug 2016  
*Summer Session (Computer Science)*

## Awards

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**Second Runner-up**, hackUST 2017 Radica Challenge, HKUST Apr 2017

**HKU Foundation Scholarship (top 5%)**, The University of Hong Kong Sep 2015 - May 2019

**First Prize (top 1%)**, Chinese Physics Olympiad Provincial Final in Jiangsu Sep 2014