

Longqi (Rocky) Cai

<https://misaka-10032.github.io>

412-652-8030

longqicai@gmail.com

515 South Aiken Avenue, Pittsburgh, PA

EDUCATION

- **Carnegie Mellon University** Pittsburgh, PA
M.Sc. in Information Technology Strategy (3.87/4.00) Sep. 2015 - Dec. 2016
- **Fudan University** Shanghai, China
B.Sc. in Computer Science and Technology (3.64/4.00) Sep. 2011 - Jul. 2015

EXPERIENCE

- **Glow, Inc** Shanghai, China
Software Engineer (Intern) Jul. 2014 - Jul. 2015
 - Customized UI widgets and animation for better user experience.
 - Set up internal Maven center with Archiva and Gradle, and extracted common libraries, improving work efficiency of multiple teams.
 - Integrated Google Now API, including both server and client side OAuth2 flow.

PROJECTS

- **Powerline Detection on Aerial Images** Carnegie Mellon University
Independent Study supervised by Prof. Kayvon Jun. - Aug. 2016
 - Adapted Fully-Convolutional Network to the task of line detection.
 - Implemented a fast Hough Transform Layer, improving convergence rate by 10 times.
 - Built a web visualization tool, helping diagnose and evaluate results.
- **Halstm** Carnegie Mellon University
Class project for Parallel Computing Apr. - May. 2016
 - Implemented Long-Short Term Memory (LSTM) with Halide.
 - Exploited multi-thread execution and vector ALUs.
 - Improved CPU performance by 2x speedup, compared with Caffe.
- **OCR with CRNN** Carnegie Mellon University
Class project for Probabilistic Graphical Model Mar. - Apr. 2016
 - Solved the OCR problem with CNN+RNN+CTC.
 - Compared three recursive layers: LSTM, Attention, and Grid LSTM.
 - Achieved 86.5% accuracy with Grid LSTM on ICDAR13, better than best in 2015.
- **Caffe MPI** Carnegie Mellon University
Class project for Machine Learning Oct. - Dec. 2015
 - Refactored Caffe to support Message Passing Interface (MPI) in Inner Product Layer.
 - Studied the impact in throughput and synchronization cost.
- **Pose Detection with CNN** Fudan University
Senior thesis Apr. - Jun. 2015
 - Trained CNN model to detect if a student is paying attention or not.
 - Experimentally applied campus-wide as part of lecture evaluation.

SKILLS

- Python \geq Java \geq C++ > C.
- Git, Bash, Makefile, Gradle, Vagrant, Docker, Markdown, Latex.