# Longqi (Rocky) Cai

https://misaka-10032.github.io

412-652-8030
longqicai@gmail.com
100 N Whisman Rd, Apt 2121, Mountain View, CA


## Experience

- **Google Research** — Mountain View, CA
  *Software Engineer* — *Oct. 2019 - present*
  - Built the infrastructure for image segmentation tasks.
  - Set up the data pipelines to push questions and pull answers from the crowd workers.
  - Refactored the image segmentation API for smoother model training and exporting.
  - Customized the segmentation models for various products: Shopping, Photos, Web Designer.
- **Google Research** — Mountain View, CA
  *Software Engineer* — *Jan. 2019 - Oct. 2019*
  - Built a hyper-accurate sky segmentation model for Night Sight in Google Camera.
  - Collected 120k high-accuracy sky masks with active learning and density estimation.
  - Published a paper and a patent on the technique.
  - Designed an initialization mechanism to hide the latency during the mode switch.
- **Google Research** — Mountain View, CA
  *Software Engineer* — *Mar. 2018 - Jan. 2019*
  - Built a labeled product retrieval system based on visual signals.
  - Fused the visual embeddings and the OCR tokens in the multi-round ranking.
  - Improved the retrieval accuracy significantly compared with the SIFT-based system.
- **Google Photos** — Mountain View, CA
  *Software Engineer* — *Mar. 2017 - Mar. 2018*
  - Built the data pipelines for the on-device face clustering.
  - Implemented the batched processing and the recovery mechanism.
  - Implemented the global consistency mechanism.
- **Glow, Inc** — Shanghai, China
  *Software Engineer Intern* — *Jul. 2014 - Jul. 2015*
  - Customized the UI widgets and the animations for better user experience.

## 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*

## Projects

- **Partical Systems** — Carnegie Mellon University
  *Class project for Compute Graphics* — *Dec. 2016*
  - Designed the abstraction of a particle system in Javascript.
  - Implemented two simulation examples based on this abstraction: fireworks and cloth.
- **Halstm** — Carnegie Mellon University
  *Class project for Parallel Computer and Architecture Programming* — *Apr. - May. 2016*
  - Implemented LSTM with Halide.
  - Exploited the multi-thread execution and SIMD, and achieved 2x speedup.

## Skills

- Languages: C++, Python, Java.
- Tools: Bash, Git, Mercurial, Bazel, Makefile, Markdown, Latex.