

Longqi (Rocky) Cai

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

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EXPERIENCE

- **Google Research** Mountain View, CA
Software Engineer Mar. 2018 - present
 - Image segmentation infrastructure and models.
 - * Set up the data pipelines to get millions of masks 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 Design.
 - Accurate sky segmentation 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 1s latency during the mode switch.
 - Labeled product retrieval system in Google Lens.
 - * Fused the visual embeddings and the OCR tokens in the multi-round ranking.
 - * Improved the user satisfaction by 2.3 (out of 5) 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.
 - Implemented the OAuth2 flow for the Google Now Integration.
 - Set up the internal Maven center, and extracted the common libraries for the team efficiency.

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.