Longqi (Rocky) Cai

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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 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 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 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 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.
  - 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.