

Contact: kmathias@google.com

Education

Carnegie Mellon University

B.S. Computer Science, Minor in Computational Biology

Dean's List Fall 2015, Spring 2016, Spring 2017 GPA: 3.58

Governor Livingston HS

May 2014

Skills

Python, C++, C, Java, Objective C, Go, Javascript, Cuda, Clojure, ClojureScript, PHP, HTML, PostgreSQL, Bash Shell, Perl,

Coursework

- Machine Learning
- Computer Vision
- Neural Computation
- Quantitative Cell and Molecular Biology Lab
- Cloud Computing
- Security and Cryptography
- Distributed Systems
- Functional
 Programming
- Intro to Computational Biology

Work Experience

Google, Software Engineer (SWE), AR R&D | Oct 2019-present

- · Augmented reality (AR) team working on 3D human capture and rendering
- Computer vision research including descriptor development, multi-view stereo optimization, and lighting assessment
- · Utilized C++, Python, and Cuda

Google, Site Reliablity Engineer (SRE), Ads Build | May 2018-Oct 2019

- · Managed throughput, latency, and reliability of several ads serving pipelines
- · Performed optimization and automation of resource allocation and usage

Google, SRE Internship, Cloud Performance Monitoring | May-Aug 2017

- Full stack design and implementation of 'SmartSort', an outage management tool
 feature that suggests services associated with a user in order to improve the user
 experience and efficiency of outage reporting
- · Utilized Go, Spanner, gRPC, Polymer JS, HTML

Zillow, SWE Internship, iOS Team | May-Aug 2016

- Launched new 'Collections' and video walkthrough features for Apple TV, created a new 'Filters' interface, and redesigned the app home page
- Utilized XCode and Objective C with Reactive Cocoa and MVC paradigms

Kirasystems, Inc. SWE Internship | May-Aug 2015

- Company profile: Machine learning contract analysis. Customers are major corporations. Over \$100B transaction value processed to date.
- Designed and developed interactive visualizations for machine learning clustering data and governing law contract clauses using the D3 library
- · Utilized Clojure, Clojurescript, Om, PostgreSQL, Javascript, HTML, CSS

Selected Projects

Generated Textures | Dec 2019-March 2020

 Personal project to first synthesize images of novel textures based on patterns in nature using generative adversarial networks, then visualize them as 3D surfaces

Research with Systems Biology Group | Jan 2017 - May 2017

 Automated retrieval of single-cell RNA expression data and extraction of source cell type information in order to start a user-friendly scRNA database, and develop a cell type classifier for novel sequence data

Distributed Collage Generator with Two-Phase Commit | April 2017

 A photo collage generator implemented in Java using distributed transactions and two-phase commit to achieve collage consensus from all contributors

"Bag of Words" Object Classification | February 2016

 Created a scene classifier by constructing a dictionary of visual words, using it to develop a recognition system, and evaluating the system on test image