

Programming Languages

Most experience in: Python, JavaScript
Some experience in: C++, SQL

Frameworks/Libraries

Python: Django, scikit-image, Selenium
JavaScript: React

Projects

Lip Colour Finder - lips.kyleingraham.com

Python, Django, dlib, scikit-image, OpenCV, JavaScript, React, NGINX, Unicorn, Ubuntu

- Given a photo of a face, Lip Colour Finder will return lipstick recommendations based on the colour of the lips on that face through computer vision processing.
- I assembled the entire computer vision pipeline and implemented a histogram-based dynamic-threshold skin detector for refinement of lip colour estimates using Python, dlib, and scikit-image.
- I implemented a mobile-friendly, consistent, and performant API-backed frontend in JavaScript/React that achieves a mobile speed score of 98/100 on Google PageSpeed Insights.
- I automated testing of the application through Selenium and Python's multiprocessing library.
- I profiled image analysis code and achieved a 5-8% speedup by optimizing the selection of image regions for colour space conversion.
- I improved security and resilience by configuring control of the proxy/application servers through systemd on Ubuntu. The application runs under a low-privilege user and will restart automatically in the event of a failure.

Education

Master of Engineering in Electrical and Computer Engineering

Queen's University, Kingston, ON, Canada

Jun 2012

- Cluster Computing | Biological Signal Analysis

Bachelor of Science in Electrical Engineering

Queen's University, Kingston, ON, Canada

Jun 2010

- Computing Science for Engineers | Fundamentals of Information Systems and Software Engineering

Continuing Education

Machine Learning by Stanford University on Coursera

Grade Achieved: 100%

Oct 2017

Professional Experience

Designer - Electrical

Smith and Andersen Consulting Engineering, Toronto, ON, Canada

Aug 2017 – Nov 2018

- Managed new-branch electrical design/construction administration Canada-wide for a top-3 Canadian bank.

Project Manager (Construction Phase)

Baha Mar Ltd., Nassau, The Bahamas

Mar 2016 – May 2017

- Mediated \$250,000 purchase of improved intake filters for \$22 million cooling plant. I prevented the repurchase of defective filters by making the case for long-term stability over short-term savings.