Darren Lee

10610 Tuggle Place, Cupertino, CA 95014 | darrenlee@berkeley.edu | 1 (408) 550-5349
website: darrenlee2.github.io | github: /darrenlee1 | linkedin: /in/darrenlee2

EDUCATION

University of California, Berkeley *Aug 2016 – May 2019 (expected)*

Electrical Engineering and Computer Sciences (EECS), B.S. GPA: 4.0 (tech.), 3.95 (cum.)

- Regents' and Chancellor's Scholar (top 1% of class)
- Member of EECS Honor Society (HKN) & Engineering Honor Society (TBP)

Selected Coursework:

CS 168: Internet Architecture	CS 188: Artificial Intelligence	CS 170: Efficient Algorithms & Intractable Problems
CS 161: Computer Security	CS 189: Machine Learning	EECS 126: Probability Theory & Random Processes

Skills: Java, Python, JavaScript, C, C++, HTML/CSS, SQL, git/unix

EXPERIENCE

Software Engineering Intern **Google** *May 2018 – Aug 2018*

- Implemented support for sending, receiving, storing, and displaying attachments (e.g. images) in the live chat channel for Google Express Customer Support, using Java and Angular Dart
- Defined Protocol Buffers to persist attachment data in Google Cloud Datastore and Google's F1 database
- Designed service endpoints and updated actions for uploading, downloading, and deleting attachments
- Enabled the real-time sending and receiving of chat attachment messages using Firebase

Software Engineering Intern **Yahoo!** *May 2017 – Jul 2017*

- Redesigned and rebuilt a developer-facing search website for yahoo-internal and external npm modules from scratch, using Node.js with Express and Handlebars as a full stack framework
- Utilized Vespa (yahoo's internal search engine) with YQL to optimize search, implemented caching of package metadata, wrote unit tests to verify code correctness, and implemented metrics to track performance
- Designed and created a security-check tool for Yahoo's cybersecurity team to reduce JavaScript/Node security vulnerabilities, by identifying underlying packages/libraries used at the application layer that have security risks
- Addressed evolving requirements by adding support for multiple, configurable security algorithms and reporting methods, and developed functionality for the tool to be used as both a command line utility and a library

Project Developer **Cal Launchpad** *Jan 2017 – May 2017*

- Worked with the Amazon AI Team to build a convolutional neural net in Tensorflow for real-time food classification
- Developed and trained a CNN using the LeNet architecture on a dataset containing 10,000 images of foods
- Implemented computer vision algorithms for real-time hand tracking, using OpenCV in Python

PROJECTS

Mastering Mastermind with MCMCs *Apr 2018*

- Applied Markov Chain Monte Carlo random-walk sampling to the classic game of Mastermind, by treating candidate codes as states, and evaluating states based on their consistency with known information
- Achieved an average score of 4.69 guesses per game - closely approaching the theoretical limit of 4.34 guesses
- Extended our algorithm to an image-guessing game, to demonstrate its efficiency despite the intractable nature of the problem and to visually illustrate the simulation in a fun way (gif link: https://gph.is/2Iy5hJt)
- Recognized by the EECS 126 course staff for outstanding work and chosen (out of 50+ teams) to present our project

Order of the Wizards *Nov 2017*

- Modeled and solved an open-ended NP-hard constraint satisfaction problem, which involved determining a correct relative ordering of wizards by age, given a set of binary constraints
- Wrote an efficient min-conflicts local search algorithm in Python that could solve large input files containing 200+ wizards within several hours - tied for 1st place (out of 300+ entries) in CS 170's final project competition

Urban Dictionary Chrome Extension *Jan 2017*

- Built and released an elegant chrome extension to allow users to easily view Urban Dictionary definitions while browsing the web (chrome web store: https://goo.gl/NO7o57)
- Used JavaScript and jQuery for pop-up and context-menu functionality, and YQL for web scraping