Allen Ma

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Education

Dartmouth College — Hanover, NH, USA
Bachelor of Computer Engineering — Graduation in 2022 is optional
Relevant coursework: Software Design and Implementation

Colby College — Waterville, ME, USA
Bachelor of Computer Science and Mathematical Sciences *GPA: 3.8/4.0* — Graduating 2021
Data Structures and Algorithms, Data Analysis and Viz., Computer Vision, Computer Architecture

Work Experience

Computer Vision Researcher — *Colby College CS Department - Summer 2019*

- Trained novel neural network architectures to tackle the problem of intrinsic image decomposition
- Constructed a database consisting of over 40,000 synthetic images and 2,000 real images
- Work is used in ongoing research to explore potential applications in improving image classification accuracy, denoising, and shadow removal

Eariously - Data Analysis Intern — *Waterville, ME - Winter 2019*

- Scraped entire college newsfeed using Python
- Performed data analysis to uncover redundant information, such as duplicates, irrelevant information, and spam
- Results prompted the development of a "daily digest feature"
- Worked with company's two co-founders, 10 fellow interns, and more than 200 students to prioritize software development backlog.

Full-stack Developer — *Colby College Economics Department - 2018*

- Developed a multiplayer web browser economics game using Python's Django and the oTree framework as well as Chart.JS (Javascript)
- Successfully deployed the game on three different testing occasions each with 30 concurrent players on the same server
- Continually revised the codebase to fit the changing requirements of the project

Personal Projects

QuakerScorer

- Programmed an iOS app using Swift with a Python OpenCV backend and a MNIST CNN network that recognizes digits on a disc golf scorecard, saving the user from manually adding the score up

Campus Rides

- iOS app written in Swift, using Firebase as a real-time server
- Allows students to request a ride and track the location of a shuttle, greatly improving the current system of having to make ad-hoc calls to the driver and not knowing where or how far the shuttle is from you

SquatMore

- Android app that uses OpenCV and Firebase as a backend to provide visual feedback on potential barbell squat form improvements

Technical Skills

Very familiar with **Python**:	Scripting, Django, Flask, Pygame, NumPy, OpenCV
Familiar Languages:	Javascript, Swift, Haskell, Java, C/C++, MATLAB
Frameworks and Libraries:	Firebase, ReactJS, MongoDB, iOS and web dev
Machine learning:	Keras, tensorflow, CNNs
Other skills:	Linux, git, Fusion360, LaTeX, 3D printing, laser cutting

Awards

- **Colby Bates Bowdoin Hackathon** 2018 - best use of Google Cloud prize
- **COMAP Mathematical Contest in Modeling 2019** - Meritorius Winnter (top 10%)