

Ashwin Aggarwal

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EDUCATION

University of Chicago Laboratory Schools (anticipated 2018) GPA: 3.77 / 4.00

Completed Masters Classes at the University of Chicago & Booth School GPA: 3.33 / 4.00

C Programming MPC5 51040 • iOS Application Development MPC5 51030 • Databases MPC5 53001

EXPERIENCE

Computation Institute, University of Chicago

June 2017 - present

Analyzed large material science datasets and implemented machine learning algorithms (i.e. Decision Forest Classifiers and Random Forest Regression) to predict attributes of unknown chemical composition. These algorithms help form educated guesses about the outcome of future laboratory experiments where these unknown compositions are created (see github).

Waaves

January 2016 - June 2016

Led a development team to produce a Ruby on Rails based website backed with Amazon S3 and Heroku databases. Created the foundations of a collaborative filtering algorithm to recommend musicians to each other. Worked with a team of UChicago Booth School students in preparing and presenting weekly finance presentations for the New Venture Challenge where we were Semi-Finalists.

VisMed3D: 3D BioTech and Printing

June 2016 - August 2016

Created the company website using Wordpress, custom CSS, and plugins. Drove monthly newsletter production and coded them with HTML and CSS; controlled the company's FTP systems, connected to a MySQL database. Also worked with experienced Industrial Engineers developing 3D prosthetics; designed a 3D printed feeding module for dysphasic patients.

PROJECTS

- **CoinTK** Awarded Facebook's Favorite Hack at HackIllinois 2017 (UIUC), CoinTK is an open source program for less experienced users in the bitcoin market to make educated decisions about investing. The framework, along with some custom prediction algorithms, an iOS App, and a web server, allows users to backtest their own prediction algorithms on the live bitcoin market and to visualize the prediction.
- **Smart Car** A bluetooth enabled electric car that is controllable from any smartphone with bluetooth capabilities. Constructed using electrical components (i.e. Arduino, L298N drivers, and DC Motors) and built with a custom laser cut chassis. The electric motors reach 5000 RPM with minimal stall torque.
- **DigitRec** An image recognition program (coded in C) that identifies handwritten digits using a K-Nearest-Neighbor algorithm. Using a Euclidian distance metric, the program has a 95.3% success rate from a test set of 10,000 images. The program uses the MNIST image recognition library of 60,000 training images.
- **TrackEr** TrackEr is an iOS Application intended for coaches that seek an easier way to communicate with their athletes. TrackEr implements a stopwatch, list of athletes, and instant text-message functionality. TrackEr optimizes split recording for Track & Field coaches and is on the App Store: <https://appsto.re/us/cDG7ib.i>.

SKILLS, EXTRACURRICULARS & AWARDS

- Invited to compete at Facebook's Global Hackathon in Menlo Park (Fall 2017)
- Science Team TEAMS Captain (2018) • Code@Lab President (2018)
- Varsity indoor and outdoor Track & Field (2015, 2016, & 2017)
 - Track & Field State Qualifier during 2015-2016 and 2016-2017 seasons.
- Fluent in Python, Java, C, Swift, SQL, HTML, CSS, & JavaScript • Proficient in Ruby on Rails & PHP
- Varsity math team member (2015 — 2018) • Code@Lab member (2015 — 2018)
- Varsity science team member on WYSE, TEAMS, and ISO (2015 — 2018)
 - ISO State Qualifier for the Electric Vehicle (2015 & 2016)
 - TEAMS JV 8-Person team ranked 5th in the nation (2016)
 - TEAMS Varsity 8-Person team ranked 4th in the nation (2017)

