Andy Kong

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Education

Carnegie Mellon University - Pittsburgh, PA   August 2018 – May 2022
B.S. Computer Science, GPA: 3.6

Hoover High School - Hoover, AL   August 2014 – May 2018
GPA: 4.5

Work Experience

MIT Lincoln Laboratory — Bioengineering Research Intern   May - August 2019

- Co-instructed Medlytics course at Beaver Works Summer Institute, teaching high schoolers the statistical bases of supervised and unsupervised ML
- Helped implement models for genomic disease prediction, population health diagnosis, and biological signal processing
- Predicted fatigue from EKG, voice, and reaction time data using unsupervised learning.

Cylab — Research Assistant   January - May 2019

- Prototyped augmented reality helmet for firefighters and other first responders in adverse conditions.
- Developed Android app enabling WiFi P2P connections to create remote smartphone ad-hoc networks.
- Integrated on-board smartphone sensors with particle filter and ground-truth landmarks to accurately track indoor position.

Projects

Eye-Tracking Mouse - Python (Pytorch, OpenCV), Supervised ML (CNNs)   May - July 2019

- Trained an ensemble of CNNs with a linear corrector on CUDA platform to determine where a user is looking on a screen.
- Generated a training dataset of 3k eye pictures and augmented it to prevent overfitting
- Achieved a 4.6% error in pixel location, allowing a user to draw pictures with their line-of-sight.

Tetris AI - Python, Decision Trees, Genetic Algorithms   November 2018

- Created a Tetris emulator allowing competitive Tetris games against a friend or AI.
- Used a genetic algorithm to optimize AI's cost function, pushing it to maximize score per piece placed.
- Learning mode lets AI emulate player's performance, allowing competition with a fair opponent.

Activities and Achievements

Editor-In-Chief of Food for Thought   critiquefood.blogspot.com
Head writer of an analytic food diary and travel blog preserved by Memory of Mankind   August 2016 - now

Hoover Robotics Team Organizer   August 2015 - May 2017
Founded the first robotics organization in school district, with 50+ total members