Jieruei Chang

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EDUCATION

Princeton High School, *Princeton, NJ*
GPA: 4.0 (4.53 weighted)
Relevant coursework: AP Computer Science, Java/OOP, Calculus BC, Physics I, Geometry, Biology I, Chemistry I

AWARDS

USA Computing Olympiad: Gold (Top 5% pre-college)
AMC 10: 96.0 (Top 2.5%) | **PSAT**: 1490
Violin: Winner of Achievement (2022), Concerto (2018), and Scholarship (2017) Awards at Westminster Conservatory
Princeton University Mathematics Competition 2022: 1st (Team)
Lockheed Martin Code Quest: 2nd out of 200 competitors, Advanced Division (2022)
HackPHS 2021: Math solver with OCR and writing ability using repurposed 3D printer (1st overall, best hardware hack)

PROJECTS

Set Game Solver (Python, Javascript, OpenCV, Flask, Vue):
- Created computer vision-based card recognition system to play pattern matching game

Radian (C++, MicroPython):
- Designed, built and programmed autonomous soccer robot with infrared ball tracking, PID angle correction, scoring algorithms, line avoidance, goal keeping and computer vision-based goal detection

Robowordle (Python, OpenCV):
- Combined fiducial detection, image manipulation, and color identification to build robotic Wordle solver

rhythmvision (Javascript, Mediapipe):
- Utilized AI body pose estimation and gesture classification in browser-based rhythm dance game

EXPERIENCE

PHS Competitive Programming Team *(2020-)*
Captain
- Teach complex algorithms and data structures to 15 members weekly, host biweekly mock contests
- Compete in national competitive programming contests such as USACO, mBIT, Lockheed Martin, and LIT

Princeton Soccer Robotics *(2021-)*
Lead Programmer, Vice President
- Integrate complex hardware and software, design intelligent robot sensor and movement algorithms, develop robot chassis and mechanical structures with CAD tools; won 2nd Place in national Robocup Junior competition

Applied Computing and Multimedia Lab *(2022-)*
- Research and develop models for anomaly detection in audio data using normalizing flow- and autoencoder-based neural network architectures

Princeton Autonomous Vehicle Engineering *(2022-)*
Computer Vision Specialist, Systems Engineer
- Design computer vision models for autonomous electric boat navigation at Princeton University

HackPHS Tech Team *(2022-)*
- Created website to attract hackathon participants, and developed topological-sort based judging system
- Hosted workshops in web development and Java

Program in Algorithmic and Combinatorial Thinking *(2020-2021)*
- Selected to participate in programs in theoretical computer science funded by National Science Foundation, mentored beginners on problem sets

PHS Math Team *(2020-)*
- Meet weekly to solve challenging problems in individual and team settings, participate in national competitions including MMATHS, AMC, AIME, PUMaC, CMIMC, and ARML

SKILLS

Languages: Fluent in Python and HTML/CSS/Javascript, Proficient in Java and C++
Technologies: Pytorch, Flask, Vue, OpenCV, Git, Linux, LaTeX