Brandon Kam

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EDUCATION

University of California, Los Angeles (UCLA)
Bachelor of Science, Computer Science and Engineering — Expected June 2025
GPA: 4.0
Diamond Bar High School, Diamond Bar, CA — May 2021

TECHNICAL SKILLS

Programming: C/C++, Java, Python, JavaScript, PHP, SQL, HTML, CSS, OpenCV, Android Studio, NoSQL
Other: Microsoft Office, Autodesk Inventor, 3D Printing, Basic circuitry, EAGLE, Arduino

EXPERIENCE

FIRST Robotics Competition

Software Engineer — January 2018 – May 2019

- Produced web application used by about 120 people for analyzing robot performance based on user inputted data through PHP and SQL
- Devised intuitive UI/UX for data input forms and data analysis presentation with JavaScript
- Communicated with users to gain constructive feedback for software
- Conducted debugging and review sessions for team members' code

Control Systems Engineer — August 2019 – May 2020

- Applied motion profiles and tuned feedback loops for at least 5 different subsystems
- Developed mathematical models for projectile trajectories based on collected imaging data and robot positioning
- Facilitated mechanical and electrical aspects of robot through troubleshooting and final testing
- Programmed path planning and following systems for robot during autonomous period

Programming Lead — August 2020 – May 2021

- Managed a team of approximately 20 people
- Trained team members on robot programming and software engineering
- Distributed adequate yet challenging responsibilities for team members
- Coordinated and communicated workflow with other sub teams with different specializations

Personal Projects

Genetic Sudoku — July 2019

- Organized complex parts through an Object-Oriented Programming framework with Java
- Applied a genetic algorithm to automatically solve differing sudoku problems
- Modified existing algorithm to improve runtime by approximately 50%

Object Distance Tracking — March 2019

- Utilized Python OpenCV library to detect color and shapes
- Generated calculations of distances and angles based on imaging data
- Applied image manipulation, such as filtering and greyscale, for object focus

Electrocardiogram — November 2021

- Prototyped and designed PCB that can detect heart beats with microcontroller
- Transformed the electrocardiogram into an IoT device that sends data to NoSQL Google Firebase Realtime Database
- Created an Android application that controls the electrocardiogram and visually graphs the collected data

HONORS

- AIME Qualifier 2020
- National Merit Finalist 2020