Kaiwen Song

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Education:

Thomas S. Wootton High School, Rockville, Maryland September 2017 - Present (Expected date of graduation - June 2021)

- Enrolled in the Academy of Information Technology (AOIT) Programming Pathway. Learned to create object-oriented programs involving data-structures, search and sort algorithms, and recursion in Java/C++
- Taken relevant college-level classes like Programming 3 (data structures and algorithms in Java), AP Computer Science A, AP Computer Science Principles, Multivariable Calculus, AP BC Calculus, AP Statistics, and AP Physics C Mechanics/Electricity and Magnetism
- GPA: 4.89 (Weighted), 4.0 (Unweighted)

Will be pursuing an undergraduate degree in computer science in the fall of 2021

Projects:

MusiScan - First Place in Maryland's 6th Congressional District's Congressional App Challenge

- Created an app that utilizes a machine learning model to detect a musical note through a picture taken by the user and informs the user on the name of the note, how to play the note, and the sound the note makes
- Managed SQLite database storing music note information and created XML graphical interface in Android Studio using Java
- Trained machine learning model using Tensorflow in Python by using 250,000+ images as training data

Color Rush - Winner of "Best Game" award in CodeDay DC Winter 2019

- Developed a mobile game in Processing (Java-based IDE) that challenge users to find different colors around them
- Analyzed pixels in images received through camera input to distinguish colors spotted in the user's camera

Virtual Clarinet - Winner of "Best App" award in CodeDay DC Fall 2018

- Emulated a clarinet into a mobile application that allow users to play a virtual clarinet like a real clarinet
- Utilized multi-touch capabilities and sound libraries in Processing using Java

COVID-19 Near Me

- Built a JavaScript-based website application that inform users of number of COVD-19 cases in their county and state
- Used REST APIs to gather COVID-19 and geographical data, utilized JavaScript speech synthesis and utterance interfaces

Work Experience:

Advanced Renewable Technology International - Software and Website Development Intern July 2020 - August 2020

- Developed Java automation software using Selenium and Java GUI aimed to make e-commerce shopping more convenient
- Optimized image formats and code to increase company website speed, improved website's SEO and user-friendliness
- Constructed an email system with a new domain name using website hosting service and helped setup for 15+ employees

Activities:

LudicrousCreations, Co-Founder January 2017 - Present

- Designed a full functioning e-commerce website using HTML, Bootstrap CSS, and JavaScript for company that creates and sells 3D-printed products
- Enhanced marketing strategies through social media and search engine optimization, leading to an annual growth of 75% and over 1000 sales in total
- Created a product labeled as "best-seller" in its category on Etsy

Programming Competition Club, President September 2018 - Present

- Taught students computer science subjects such as bit-string flicking, boolean algebra, and number systems
- Led teams to compete in local programming competitions, such as the American Computer Science League, United States Computing Olympiad, Carnegie Mellon University High School Programming Contest, and Lockheed Martin Codequest

Robotics Club, President September 2017 - Present

- Mentored the students in creating and programming Lego robots using Java to perform various autonomous tasks
- Organized in-club competitions such as BattleBots that encourage teamwork and competitive spirit

Hack Club, Officer September 2017 - Present

- Introduced students to website development fundamentals (HTML/CSS) and basic game development using JavaScript
- Coordinated competitions where students create personal projects that fall into holiday themes

CodeDay DC, Co-Organizer May 2019 - November 2020

- Helped coordinate a 24 hour, bi-annual hackathon that promotes team-work and programming to over 150 students through the creation of coding projects
- Searched for a low-cost venue, reached out to local tech companies for sponsorships, and managed the budget of the event

Achievements:

Carnegie Mellon University High School Programming Contest, Seventh Place March 2020
Congressional App Challenge, Maryland's 6th Congressional District First Place December 2019
CodeDay DC Spring 2019, Best Game Award February 2019
CodeDay DC Fall 2018, Best App Award November 2018