

# 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 programs involving data-structure traversals, string manipulation, search and sort algorithms, classes and objects, and recursion in Java/C++
- Currently taking AP Computer Science A, AP BC Calculus, AP Physics C, have taken AP Computer Science Principles and Honors Programming 1
- GPA: 4.86 (Weighted), 4.0 (Unweighted)

## Projects:

**MusiScan - First Place of 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 SQL database storing musical note information and graphical interface created 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 2018**

- Developed a mobile game in Processing that challenges the user to find different colors in their surroundings
- 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 allows the user to play the virtual clarinet like a real clarinet
- Utilized multi-touch capabilities and sound libraries in Processing using Java

## WikiDefine

- Built a website application that uses the Wikipedia API to generate information regarding key terms inputted by the user
- Incorporated HTML and Bootstrap CSS to create the user interface and Javascript HTTP requests to retrieve information from Wikipedia API in the form of JSON objects

## Activities:

**CodeDay DC, Co-Organizer**

**May 2019 - Present**

- 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 and managed the budget of the event

**LudicrousCreation, Co-Founder**

**January 2018-Present**

- Designed a website using HTML, Bootstrap CSS, and Javascript for a company that creates and sells 3D printed creations
- Enhanced marketing strategies through social media and search engine optimization, leading to a growth of 75% in revenue year over year
- Created a product labeled as "best-seller" in its category on Etsy

**Youth Building Bridges, Rockville, Maryland and Fujian, China**

**March 2019 - August 2019**

- Worked with other members in developing a 50-page lesson plan consisting of English, math, science, and physical education
- Traveled to rural areas of China to teach a class of 30 students and organized a school play production

**Programming Competition Club, Co-leader**

**September 2018 - Present**

- Taught students computer science subjects such as bit-string flicking, boolean algebra, and number systems
- Organized the finances of students' participation in competitions such as the American Computer Science League

**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

**Robotics Club, Secretary**

**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

**CAPSA, Rockville, Maryland**

**September 2016 - Present**

- Tutored new immigrant students on core subjects with a strong emphasis on English
- Helped students adjust to American schooling style and English communication

## Achievements:

**Hack Club Holiday Website Challenge, First Place**

**December 2018**

**President's Volunteer Service Award, Gold (Over 550+ hours of volunteering)**

**August 2019**

**Governor's Volunteer Service Award - Maryland**

**August 2019**

**National Honors Society, Member**

**May 2019 - Present**

**Montgomery County Senior Honors Band, Member**

**January 2019**

**Marching Band National Competition, Second Place**

**November 2017**