

Joshua Liu

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EDUCATION

University of Wisconsin-Madison

B.S. in Computer Science and Data Science

Madison, WI

Sept 2023 – May 2026

Neuqua Valley High School

High School Diploma

4.44/4.00 GPA, 1500 SAT

Naperville, IL

Aug 2019 – May 2023

EXPERIENCE

American Institute of Aeronautics and Astronautics UW-Madison

University of Wisconsin - Madison

September 2023 – Present

Madison, WI

- Implemented C++ code on an Adafruit ESP32 Feather to control a rocket's flap deployment using data from the flight computer to ensure that it precisely reaches 10,000 feet
- Developed modular and extensible code to allow for future developments on rocket and fine tuning of parts
- Managed team of programmers to integrate software with air brake motors

Teacher and Private Tutor

The Study Huddle

November 2022 – May 2023

Naperville, IL

- Taught high school students mathematics and computer science
- Created lesson plans and homework assignments tailored to students' abilities

Wolfram High School Summer Research Program

Wolfram Research, Inc.

July 2022

Champaign, IL

- Systematized process for extracting data from a single video source of a bouncing object and calculating its physical constants
- Identified and reported on weaknesses within Wolfram Language's newer image processing functions by testing a variety of filming environments and measuring the functions' effectiveness
- Presented and described the functionality of the process in a [computational essay](#)

PROJECTS

AWFLE Word Game | *HTML/CSS, Javascript, PHP*

January 2022 – October 2022

- Developed challenging variation of Wordle game and designed new interactive interface to fit rule changes
- Designed multiple iterations of code to accommodate upgraded server technologies to improve performance and user experience.
- Gained over 1000+ players utilizing SEO techniques such as keyword optimization and fast UX

DiscInferno Disc Golf Scorecard | *PHP, SQL, Javascript, HTML/CSS*

September 2021 – February 2023

- Developed a free app with features such as a compressed overview and consistent ordering mirroring the UI of popular membership-based apps
- Implemented SQL table structure and ensured security against injection attacks
- Added user-suggested improvements, including local progress saves and dynamic tee-off order

Remote Controlled Model Airplane

February 2023 – August 2023

- Modeled and fabricated a V-Tail airplane model from scratch using foam-core board and other electronic components
- Combined and calibrated various electronic parts to communicate with control surfaces and radio transmitter
- Conducted multiple test flights with different airfoils, and identifying areas for optimization regarding maneuverability, weight reduction, and range

TECHNICAL SKILLS

Relevant Coursework: Elementary Matrix and Linear Algebra, Programming II (Java), Data Science Programming I (Python), Intro. to Computer Engineering

Languages: Java, Python, PHP, Javascript, HTML/CSS, Mathematica

Software Tools: IntelliJ, Eclipse, VS Code, Jupyter