

# Trevor Black

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## EDUCATION

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### Johns Hopkins University

August 2022 – Expected May 2026

*Bachelor of Science in Computer Science, GPA 3.8*

*Baltimore, MD*

Relevant Courses: Machine Learning, Practical Cryptographic Systems, Intro Algorithms, Fullstack JavaScript

## EXPERIENCE

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### Coding Instructor

May 2024 – August 2024

*iD Tech*

*New York, NY*

- Instructed teens to code in Lua with Roblox Studio. Promoted to teach Unreal Engine.
- Communicated difficult programming topics in easy to understand terms tailored to individual students.

### Undergraduate Research Assistant

May 2023 – July 2023

*School of Engineering at Charles III University of Madrid*

*Madrid, Spain*

- Lab assistant for high performance computing research tasked with optimization and performance analysis.
- Integrated NVIDIA Cuda toolkit and updated C/C++ functions to improve data sharing by utilizing the GPU.
- Explored ways to visualize GitHub collaboration in a classroom setting.

### Undergraduate Research Assistant

January 2023 – April 2023

*Johns Hopkins University*

*Baltimore, MD*

- Headed Unity sub-team responsible for improving “gamified” version of the pandemic simulation.
- As a sub-team lead, I set deadlines, arranged team meetings and assigned work to meet sprint deadlines.
- Responsible for over 40 commits to the established Azure DevOps repository.
- Programmed pandemic event system, handling of server simulation data, and pre-existing bug fixes.

## PROJECTS AND EXTRACURRICULARS

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### Hopkins Design Build Fly Club | President

September 2023 – Present

- As president, I led weekly summer meetings preparing logistics for fundraising, research, and recruitment.
- Competed in 2024 annual international aircraft building competition “Design Build Fly” hosted by the AIAA.
- Placed in top 50% with a budget of only \$1,500 (top competitors had over \$20,000).
- Led website development, primarily using the Astro web framework and GitHub technologies.

### Hopkins Sustainable Wind Energy Team | Member

September 2022 – Present

- Competed in annual Collegiate Wind Competition to build a wind turbine to operate under unique circumstances.
- Contributed to electronics and controls sub-team, working heavily with Arduinos and ESP32's.
- Responsible for choosing micro controller model and peripherals. Coded PID controller to regulate RPM.

### Personal Projects | All projects detailed on portfolio page: [trevoroblack.com/projects](http://trevoroblack.com/projects)

- **Portfolio Site:** Developed a website from scratch to present projects in a detailed manner.
- **C++ Game Engine:** Coded a video game using C++, SFML, Dear ImGui and GLSL. Implemented Entity Component System to make use of cache locality for boosted performance. Researched and programmed 2D physics (a combination of Verlet and Euler integration) to simulate a car and inverse kinematics.
- **Game Jams:** Participated in annual “GMTK” game jam (hackathon for creating a game) for four years. Game jams were held virtually, giving the 6000+ teams 48 hours to create a game based on a theme. Used Unity and placed in the top third.

## TECHNICAL SKILLS

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**Languages:** C/C++, C#, Python, Java, JavaScript, HTML/CSS, Lua, GLSL

**Frameworks:** React, Next.js, Node.js, Tailwind, Flask, Unity

**Developer Tools:** GitHub, Azure, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Unix

**Libraries:** pandas, pillow, NumPy, Matplotlib, SFML, Dear ImGui, React Three Fiber