# Trevor Black

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## Education

**Johns Hopkins University**                                                                                    **Baltimore, MD**

Bachelor of Science, Computer Science, GPA: 3.8

8/22 — Exp. 5/26

## Experience

**School of Engineering at Charles III University of Madrid**                                   **Madrid, Spain**
- Lab assistant for high performance computing research.                                        5/23 — 7/23
- Integrated NVIDIA Cuda toolkit and updated C/C++ functions to improve data sharing by utilizing GPU.
- Conducted performance improvement analysis.

**Johns Hopkins "Delineo" Pandemic Simulation – led by Prof. Dahbura**        **Baltimore, MD**
- Headed Unity sub-team responsible for improving "gamified" version of simulation.        1/23 — 4/23
- As a team leader, I set deadlines, arranged team meetings and assigned workstreams.
- Programmed new features; retrieving, parsing and importing data from the server; and bug fixes.

**Metropolitan Golf Association Internship**                                                      **White Plains, NY**
- Coded a dynamic way of updating the About Us page using JavaScript and HTML.        5/22 — 6/22
- Improved database structure to allow for deeper analysis of tournament data.

## Technical Skills and Projects

- Programming knowledge: Python, C/C++, C#, Java, React, Go
- CAD experience in Onshape, Fusion 360, OpenSCAD, Blender
- Personalized Game Engine in C++ (see github or itch.io link below)
    - ◊ Created a videogame in C++ with SFML for rendering, input, and audio. Implementing custom collision detection, physics, entity/component structure, serialized loading/saving, graphics shaders, AI (state machines, graph traversal), and more.
- Simulations Website (see github link below)
    - ◊ Created a gallery of physics-based simulations (e.g. planetary movement) in JavaScript
- Manhattan Map Project (see github link below)
    - ◊ Programmed, designed and fabricated a custom LED-lit, laser-cut NYC subway transit map powered by a Raspberry Pi Pico
- GitHub page with source code of above projects (and others)        (github.com/tobbot2)
- Itch.io page of video games I have coded in C# and C++        (tobbot2.itch.io)
- Thingiverse gallery of 3D models        (thingiverse.com/tobbot2)

## Clubs and Events

- Hopkins Sustainable Wind Energy Team                                                            9/22 – Present
    - ◊ Implemented serial communication between two Arduinos to allow the wind turbine's electronics to send data to the load electronics. Also incorporated a PID controller to regulate the turbine's revolution speed in a volatile wind speed environment.
- Hopkins Design, Build, Fly Club                                                                      9/23 – Present
    - ◊ Researched components for model plane and incorporated them into the OnShape CAD model for laser cutting. Components include the fuselage, battery bank, wing extensions, and more.
- HopHacks Hackathons                                                                                        2022, 2023
    - ◊ Team lead; used React, Express, Swift, Flask and various APIs
- Game Maker's Toolkit (GMTK) Game Jam                                                          2021, 2022, 2023
    - ◊ Sole programmer in team using Unity; minimum viable products viewable at tobbot2.itch.io