

# Matei Budiu

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## Education

**Carnegie Mellon University,**  
Pittsburgh, PA

Bachelor of Science in Computer Science (Expected May 2025)  
Dean's List with High Honors F21, Cum. GPA: 4.0/4.0  
Relevant coursework: Principles of Imperative Computation,  
Mathematical Foundations for Computer Science, Matrices and Linear  
Transformations

**BASIS Independent Silicon Valley**  
High School, San Jose, CA

BASIS Diploma with High Honors, GPA: 4.0 (unweighted); 4.81 (weighted)

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## Skills

**Programming languages:** Java (6+ years), Python, C, LaTeX

**Software:** Eclipse, IntelliJ, Git, VSCode, Jupyter, Photoshop Elements

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## Projects

**Tanks: The Crusades** (2018–now); <https://github.com/aehtwtw/Tanks>

Tech demo: <https://www.youtube.com/watch?v=iv6r5i>

- Developed a fully functional top-down shooter game in Java (69,000 lines of code) in which players can create and customize their own levels and that included the following features: 2D and 3D OpenGL graphics with shaders and vertex buffer objects, OpenAL audio (via the Lightweight Java Game Library, LWJGL), network multiplayer (via the Netty library, with multithreading), computer-controlled tanks capable of pathfinding and calculating bullet trajectories
- Published on Steam: [https://store.steampowered.com/app/1660910/Tanks\\_The\\_Crusades/](https://store.steampowered.com/app/1660910/Tanks_The_Crusades/), [itch.io https://aehtwtw.itch.io/tanks](https://aehtwtw.itch.io/tanks), and the iOS App Store <https://apps.apple.com/us/app/tanks-the-crusades/id1508772262>
- 83,500 sales on Steam, 640 average daily active users since release, 312 user reviews (91% positive)

**Manhunt Game** (Fall 2021); <https://github.com/gcs-manhunt>

- Co-led a 5-person team to create a hide-and-seek game for mobile devices with GPS and networking
- Primarily developed the game client

**Steel Edge** (2017–2021); [https://www.planetminecraft.com/texture\\_pack/steel-edge](https://www.planetminecraft.com/texture_pack/steel-edge)

- Created a texture pack for Minecraft that changes the look-and-feel of the game to reveal traps and make it more usable; used Photoshop & Java to create and recolor texture artwork; changed json model files
- 3,000+ downloads and 16,000+ views

**BASIS and Stanford University senior project** (Fall 2020-Spring 2021);

<https://github.com/aehtwtw/hftsimulator>

Developed a financial-exchange simulator in Python to investigate the effects of a high-frequency trading practice (stale-quote arbitrage) on overall market health

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## Internships

**Stanford University, STEM to SHTM program** (June-Aug 2020)

Built a Python program to visualize and extrapolate data in order to evaluate fairness and latency in the CloudEx simulated high-frequency trading platform

**Carnegie Mellon University (West campus)** (June-July 2019)

Created a Python program to generate, train, and test neural networks for formal verification