

MATTHEW PALLAN

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Education

University of Maryland

Bachelor of Science in Computer Science

Sep. 2022 – Expected May 2026

College Park, Maryland

Mount Saint Joseph High School

High School Diploma

Aug. 2018 – May 2022

Baltimore, Maryland

Experience

T. Rowe Price

High School Encounter

May 2022

Baltimore, MD

- Attended talks on the fundamentals of investing and how technology plays a role at T. Rowe Price.
- Spoke with various employees including software engineers, traders, and equity analysts about their positions.
- Completed and presented capstone project on why Disney is an enduring brand using fundamental analysis.

Projects

Stock Chart | C++, CMake, Vulkan

Current

- Developing a live stock chart using a websocket data stream.
- Using Vulkan backend along with ImGui for graphical interface.

Quick Host | Rust, Actix

May 2022

- Produced a rust application that serves a similar function to <https://tiny.host>.
- Utilized Actix for the rust backend with a simple api key based authentication system.

Pattern Scanner | C++, CMake, AVX-256

March 2022

- Developed a binary pattern scanner to quickly locate similarities in different x86 binary files.
- Used AVX-256 instructions to speed up searching by 5x compared to a traditional pattern scanner.
- Incorporated modern C++ features including templates and constexpr lambdas for ease of use.

Software Protection Driver | C++, Visual Studio, Windows Kernel API

January 2022

- Programmed a Windows driver to protect the process of my choice from malicious actors.
- Created corresponding user-mode application to issue encrypted IOCTL commands.
- Dynamically resolved all function imports to mitigate against Import Address Table tampering.

Secure Software Loader | C++, Java, SQL

October 2021

- Designed a client and server to allow for secure loading and management of products on Windows.
- Client employed various anti-debugging and anti-reverse engineering techniques to remain uncompromised.
- Server stored data in MySQL database and communicated with client through sockets.

Technical Skills

Languages: C++, C, Python, Java, Rust, SQL, Typescript / Javascript

Tools: Git, CMake, Gradle, IntelliJ / Clion, Visual Studio

Technology / Frameworks: Github CI/CD, Windows, Linux, React

Leadership / Extracurricular

Business / Investment Club

President

March 2020 – May 2022

Mount Saint Joseph High School

- Presented about various investment strategies and securities.
- Conducted paper trading game in which aforementioned strategies could be applied.

Asian American Club

Founder & President

May 2020 – May 2022

Mount Saint Joseph High School

- Established club with the intention to incorporate Asian Culture into Mount Saint Joseph.
- Organized fundraisers for various charitable causes, namely, the Indian Red Cross supporting the fight against COVID