

Arnav Patel

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EXPERIENCE

Textron Systems

June 2024 – Aug 2024

Software Engineering Intern

Hunt Valley, MD

- Optimized A²PATS, an electromagnetic environment simulator, by refactoring its database structure using **C#**, **C++**, and **SQL**, significantly improving query performance and data organization
- Implemented a strategic migration from third-party dependency injection to **.NET Core's** built-in services, leveraging **C#** to enhance system performance and code maintainability
- Developed custom functionality to support complex dependency injection scenarios, including torn lifestyle and parameter overriding, ensuring compatibility with existing codebase
- Created an algorithm to intelligently select the best constructor for object creation in the new dependency injection system, improving flexibility and error handling
- Refactored over 500 files to align with the new dependency injection implementation, meticulously updating references to maintain system integrity and functionality

Textron Specialized Vehicles

May 2023 – Aug 2023

Software Engineering Intern

Augusta, GA

- Pioneered GPS tracking prototype with Arduino and ESP32 for real-time global golf course management
- Enhanced the **Android UI** for golf tournaments using **C#** and **Java**, improving the user experience and functionality of the in-cart tablet system
- Implemented a dynamic scorecard feature that retrieves and displays real-time tee box information from online tournament data, enhancing the overall tournament management capabilities
- Contributed to a substantial increase in company revenue by over **\$500,000** through the successful delivery of the GPS tracking solution

J.P. Morgan Chase

Aug 2022

Virtual Software Engineering Intern on Forage

Remote

- Repaired broken client data feed script, allowing customers to view the correlation between two stocks in **Python**
- Constructed a **React** and **TypeScript**-based graph for traders to display and update server data
- Generated a live graph that displays the data in a clear and appealing way for traders to monitor

PROJECTS

Odyssey | *JavaScript, HTML, CSS, Node.js, React.js, Express.js, REST API, MongoDB*

- Developed a **full-stack MERN** application to help students seamlessly locate study spaces throughout the day
- Incorporated essential functionalities including classroom generation, precise map directions, course search capabilities, real-time messaging, and schedule comparison

Shell | *C, C++, Yacc, Lex*

- Constructed a custom shell from the ground up
- Implemented advanced functional support within the custom shell, including wildcards, variable expressions, subshells, file redirections, and pipes

Spotify Bot | *Python, Spotify API, Discord API*

- Developed a Discord bot leveraging **Spotify** and **Discord APIs** to automate personalized song recommendations
- Introduced a “Song of the Day” feature to randomly select songs from a user’s liked playlist, avoiding duplicates
- Integrated recommendation engine to suggest artists and songs based on user’s listening history or a specific song

EDUCATION

Purdue University

West Lafayette, IN

Bachelor of Science in Computer Science

Aug. 2021 – Dec 2024

- Relevant Coursework:** Intro to AI, Cloud Computing, Computer Networks, Computer Security, Compilers, Operating Systems, Computer Architecture, Databases, Cryptography, Data Structures & Algorithms, Systems Programming, Software Engineering I, Programming in C

TECHNICAL SKILLS

Languages: Java, C, C#, C++, Python, SQL, JavaScript, HTML, CSS, R, Neo4j

Frameworks and Developer Tools: .NET Framework, React, Node.js, Azure, AWS, GCP, Docker, Git