

SAMUEL BAXTER

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EDUCATION

The Pennsylvania State University, State College, PA

Anticipated Graduation May 2025

Major: *Computer Science*

Relevant Coursework: Data Structures and Algorithms, Computer Architecture, Operating Systems, Statistical Analysis, Database Management Systems, Python, Java

WORK EXPERIENCE

Lavner Education, Villanova University, PA

June 2024 – August 2024

Tech Instructor/IT Intern

- Led technology-focused camps, teaching programming languages like Python and C++
- Educated students on game development principles and best practices

PROJECTS

Musilyze - Spotify Analytics Dashboard

<https://musilyze.vercel.app/>

- Developed a full-stack web application that leverages the Spotify API to provide deep insights into user listening habits
- Built a responsive frontend with React and Tailwind CSS featuring animated visualizations of user data combined with a Flask backend with SQLite database, JWT authentication system, and RESTful API endpoints
- Created advanced analytics features using data visualization libraries (Chart.js) to display user preferences and engineered a hybrid analysis system using machine learning techniques to discover patterns in user playlists
- Deployed application using Railway and Vercel with CI/CD pipelines

Solar System Visualization Web Application

<https://nasa-hackathon-2024-two.vercel.app/>

- Led a team of 5 to design an orrery for NASA's 2024 Space Apps Challenge Hackathon
- Implemented a dynamic, educational space exploration tool using Next.js, Three.js, and Tailwind CSS, featuring real-time celestial body simulations and interactive learning modules
- Integrated NASA data sources to provide accurate astronomical information, while incorporating gamification elements to enhance user engagement and space education

TECHNICAL SKILLS

Frontend Development

- React.js, Next.js, Tailwind CSS, Framer Motion
- HTML, CSS, JavaScript, Chart.js, Three.js

Backend Development

- Python (Flask), RESTful API design, JWT authentication
- Database management (SQLite, MySQL)
- API integration and OAuth implementation