Vaibhav (Vai) Patankar

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EDUCATION

Pennsylvania State University

June 2025 - 2029 University Park, PA

B.S Computer Science and Math (Dual Major)

4.0/4.0

Relevant Coursework: Data Structures and Algorithms (CS 132), Multivariable Calculus (Math 230), Linear Algebra (Math 220), Discrete Math (CS 360)

Conestoga High School

August 2021 - June 2025 | Berwyn, PA

Relevant Coursework: AP Computer Science A (Java), App Development 1 & 2 (C#), AP Statistics (R), AP Computer Science Principles (Python), AP Physics C: Mechanics, Electricity and Magnetism, AP Calculus BC

EXPERIENCE

Research Assistant | OCaml, Haskel

April 2025 - July 2025

University of Michigan

- Research assistant for the <u>Future of Programming Lab</u> run by Dr. Cyrus Omar, which explores next-generation programming environments by inserting "type-holes" as placeholders for missing code.
- Assisted with code review, analyzed and summarized papers to the team, and gained experience in programming language theory.

Robotics Team Lead Programmer | Github Code

September 2022 - March 2025

Vex Robotics 6121A - Worlds Division Semifinalist

- Led a team of programmers for VEX teams 6121A and 6121E. Developed autonomous and driver control
 code using C++ and the PROS library. Implemented PID control and odometry for precise robot
 movement.
- Won multiple tournaments and awards over the past 3 years including placing top 16 in the Worlds Division out of 800 teams.

PROJECTS

Map App | Github Code | C#, .NET, MAUI, XAML, XML

2024 - 2025

• Developing a map and announcement app for my high school to improve navigation and communication.

RPG Game | Demo | C++, SDL 2.0

2024

Designed and built a 2D maze-style RPG using SDL 2.0

Unity Projects | Github Code | Ithc | C#

2024

 A collection of Unity games created for my App Development 2 class, including a Fruit Ninja-style game, sumo wrestling, a running game, and more.

Evil Hangman | Github Code | C#

2023

A devious twist on Hangman where the game dynamically changes causing the player to never win.

AP CSA Projects | Github Code | JAVA, Processing

2022

Developed various projects for AP Computer Science A, including Tic-Tac-Toe, a Circle Game, a BFS/DFS
pathfinding project, JUnit tests using imaginary numbers, and binary search implementations.

SKILLS

Programming Languages: C++, Python, C#, Rust, OCaml, Java, XML, SQL, Ruby, R

Frameworks: PyTorch, .NET MAUI, SDL 2.0, Processing, Pygame, NodeJS, React, Open-GL

Technologies: Git, Linux (Arch), Latex, Unity3D, NeoVim, VSCode, Visual Studio

HONORS AND AWARDS

- USACO Platinum (C++)
- AIME Qualifier
- AP Scholar with Distinction