Tanishk Modi

College Park, MD | Website | | tanishkmodi9@gmail.com | LinkedIn | Github

Education

University of Maryland College Park, MD

B.S in Computer Science *May 2027*

- Related Coursework: Object Oriented Programming, Data Structures and Algorithms, Undergraduate Research, Calculus

Professional Experience

Freelance Web Developer February 2024 – Present

Web Developer *College Park, MD*

- Designed and implemented 5+ responsive websites using HTML, CSS, and JavaScript, increasing user engagement through intuitive navigation features including animated drop-down menus and mobile-first layouts.
- Collaborated closely with clients to identify business needs, delivering effective web solutions that improved online engagement.
- Deployed and optimized websites through Netlify while implementing SEO best practices including semantic HTML, meta descriptions, and site maps that improved search engine rankings by 65 percent and over 200 impressions.

First-Year Innovation and Research Experience January 2025 – Present

Research Assistant *College Park, MD*

- Developing bioinspired robotic systems by analyzing biological mechanisms and applying them to robotic design for environmental monitoring and field research applications.
- Learning to utilize CAD for design, 3D printing for fabrication, Arduino+MATLAB for programming as well as learning electrical circuit design and actuator/motor integration.

Skills

Programming: Java, HTML/CSS, JavaScript
Developer Tools: Git, Github, VS Code, IntelliJ, Eclipse
Methodologies: Familiar with Agile Development Principles

Projects

Mammoth Maze (Bitcamp Hackathon 2025) | *Java OOP, AWT, Git, Github* April 2025

- Developed an analog horror game using a custom Java raycasting engine with framerate-independent movement.
- Engineered a real-time player movement system using trigonometric raycasting principles and vector-based motion, enabling navigation and camera rotation in a rendered maze environment.
- Developed a modular enemy class that calculates optimal movement paths using an A* pathfinding algorithm on a 2D tile-based grid, allowing the mammoth to dynamically pursue the player through complex maze layouts and adapt to changing positions in real time
- Resolved edge-case bugs related to corner clipping, fisheye lens distortion, and wall detection by analyzing and debugging the code, as well as collaborating with a team of 3 people to fix these issues.

Java Casino | *Java, OOP, Inheritance, Collections, Git, Github* Jan 2025 – Feb 2025

- Developed a console-based casino game suite in Java featuring Blackjack, Roulette, and Slots with realistic game mechanics and betting systems.
- Implemented object-oriented design using custom classes and a shared interface for polymorphic game handling.
- Built modular, reusable logic to handle shared behavior like card value calculations and bust detection.
- Applied data validation and input handling to manage player decisions and prevent crashes from invalid inputs.
- Used Git for version control and hosted the project on GitHub, following best practices for source code management, commit history, and collaborative-ready structure.

Personal Portfolio Website | *HTML, CSS, JavaScript, Git, Github* Apr 2024 – May 2024

- Developed and deployed a responsive portfolio website (tanishkmodi.tech) using HTML, CSS, and JavaScript, featuring glow/hover effects, auto-typing text, and rotating text to showcase experiences and projects.
- Used Figma for UI/UX prototyping to create a user-experience focused design that improves engagement through intuitive navigation.