

# Aayush K. Singh

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## PROFESSIONAL SUMMARY

Full Stack Developer and Senior Computer Science student with 3+ years of experience maintaining enterprise web systems. Specialized in bridging the gap between modern web development (React, Next.js) and AI integration. Proven track record of improving site accessibility (WCAG) and performance for academic institutions. Seeking a Software Engineering role to leverage expertise in frontend architecture and scalable systems.

## EDUCATION

### Youngstown State University

Bachelor of Science in Computer Science, Minor in Mathematics

Youngstown, OH

May 2026

- **GPA:** 3.36 / 4.0 | **Honors:** Dean's List, Academic Excellence Award
- **Relevant Coursework:** Data Structures & Algorithms, Server-Side Development, Game Programming

## EXPERIENCE

### Web Developer

Jan 2023 – Present

Youngstown State University (Cliffe College of Creative Arts)

Youngstown, OH

- Maintained and updated the digital infrastructure for the college's public-facing portal using **Drupal CMS**, serving 11,000+ monthly users.
- Collaborated with design teams to implement responsive UI components (forms, navigation) using **HTML, CSS, and Bootstrap**, ensuring visual consistency across departments.
- Audited web pages for **WCAG 2.1 accessibility compliance**, modifying code structure to ensure usability for students with disabilities.
- Developed interactive data collection forms to streamline student inquiries, reducing manual administrative data entry.

### Tech Tutor

Aug 2021 – Nov 2021

Timeline Tech

Birgunj, Nepal

- Designed and delivered introductory C++ programming bootcamps for students with no prior technical background.

## TECHNICAL PROJECTS

### Super Mario Reinforcement Learning Agent | Python, PyTorch

Nov 2025

- Engineered an autonomous agent to play Super Mario Bros using Deep Q-Networks (DQN) and Reinforcement Learning.
- Implemented **computer vision preprocessing** pipelines (frame resizing, grayscale conversion) to optimize model input data.
- Designed a custom reward function to incentivize level completion and speed.

### TinyTextGPT (LLM Implementation) | Python, PyTorch

2025

- Developed a Transformer-based language model from scratch, implementing self-attention mechanisms and positional encoding.
- Trained the model on the Project Gutenberg dataset to generate coherent text sequences.

### Personal Portfolio V2 | Next.js, React, Tailwind CSS

2025

- Architected a modern, high-performance portfolio website using **Next.js** to showcase technical projects.
- Deployed via Vercel for global accessibility and optimized for mobile responsiveness.

### RSA Encryption Algorithm | C++, Cryptography

2022

- Implemented a secure public/private key encryption system using the RSA algorithm in C++.
- Applied number theory concepts (modular arithmetic) to ensure secure data transmission simulations.

## TECHNICAL SKILLS

**Languages:** Java (Data Structures), Python, JavaScript, C++, SQL

**Frontend Web:** React.js, Next.js, Tailwind CSS, HTML5, CSS3, Drupal CMS

**AI Machine Learning:** PyTorch, OpenAI API, Reinforcement Learning (RL), LangChain

**Developer Tools:** Git, GitHub, VS Code, Vercel, Linux/Unix