Vaibhav Gupta

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EDUCATION

University of Toronto Scarborough   Toronto, ON
Honours Bachelor of Science in Computer Science   *Sep. 2023 – Apr. 2028*

TECHNICAL EXPERIENCE & LEADERSHIP

IT Trainee   Toronto, ON
City of Toronto, Technology Services Division (TSD)   *Sep. 2025 – Present*

- Administered and configured Salesforce for data management, workflow automation, and report customization supporting city-wide technology services.
- Performed AODA (Accessibility for Ontarians with Disabilities Act) compliance testing on Java-based web applications, documenting accessibility issues and recommended remediations.
- Used Jira and Confluence for ticket tracking, project coordination, and maintaining technical documentation across multiple teams.
- Wrote knowledge base articles and internal guides to support troubleshooting and onboarding of future trainees.
- Participated in Agile development workflows, including stand-ups, sprint reviews, and backlog refinement.

Vice President of Technology   Toronto, ON
University of Toronto Scarborough, C.R.E.A.T.E. Club   *Nov. 2024 – Sep. 2025*

- Led development of the club's official website using React and TailwindCSS, providing a centralized platform for projects and events.
- Managed the GitHub organization for 40+ student developers, enforcing version control standards and role-based repository access.
- Organized and supported technical workshops, hackathons, and coding competitions for the student community.
- Mentored junior members in software development practices, code review, and project workflows.
- Improved onboarding processes and documentation to ensure continuity across executive team transitions.

PROFESSIONAL & HACKATHON PROJECTS

Personal Portfolio Website | *Personal Project*   *Ongoing*

- Developed and deployed a modern personal portfolio website using React 19, Vite, and TailwindCSS to showcase projects, technical skills, and experience.
- Implemented responsive, mobile-first layouts with animated UI components using Framer Motion, including dynamic type animations and 3D hover effects.
- Centralized portfolio content and project metadata to enable maintainable updates and structured data management.
- Configured automated CI/CD pipeline with Cloudflare Pages for continuous deployment on each push to the main branch.
- Hardened production deployment with security headers including Content Security Policy (CSP), HSTS, SRI, and clickjacking protections.
- **Technologies Used:** React 19, Vite, TailwindCSS, Framer Motion, ESLint, Cloudflare Pages

SafeOStroll - AI Safety Application | *Hack the Valley 9*   *Nov. 2024*

- Developed an AI-driven safety application within a 36-hour hackathon to assess user emotional states and trigger appropriate interventions.
- Implemented emotion analysis using voice and text inputs with real-time processing.
- Integrated WebRTC-based voice communication for continuous, hands-free interaction.
- Incorporated HERE Maps API for location tracking and emergency routing to nearby support services.
- **Technologies Used:** Python, Django, React, PostgreSQL, WebRTC, HERE Maps API

C.R.E.A.T.E. Club Website | *C.R.E.A.T.E. Club* *May 2025*
- Designed and developed the official club website serving as a central hub for over 100 members.
- Implemented modular frontend architecture to support maintainability and future expansion.
- **Technologies Used:** React, TailwindCSS, Django

Code Clash Prediction Platform | *C.R.E.A.T.E. Club Gameathon* *Jun. 2025 – Jul. 2025*
- Designed and developed a full-stack prediction platform for live hackathon events with real-time scoring and leaderboards.
- Built RESTful backend services in Django to manage match results, user predictions, and dynamic scoring logic.
- Developed a real-time React frontend with WebSocket-based data synchronization.
- Deployed and operated the system during a live event with 45 participants, achieving 99.9% uptime and supporting concurrent users.
- **Technologies Used:** Django, React/JSX, WebSocket, PostgreSQL, RESTful APIs

Chess Game Visualization System | *C.R.E.A.T.E. Club Gameathon* *Apr. 2025 – May 2025*
- Developed a chess game visualization tool with JSON-based game replay support.
- Implemented dynamic piece rendering and move history display using Python and Tkinter.
- **Technologies Used:** Python, Tkinter, JSON

Advanced Tic-Tac-Toe Game System | *C.R.E.A.T.E. Club Gameathon* *Apr. 2025 – May 2025*
- Built an extensible Tic-Tac-Toe engine supporting variable board sizes and multiple gameplay modes.
- Designed modular architecture enabling human and AI-based gameplay configurations.
- **Technologies Used:** Python, Tkinter, JSON

ACADEMIC PROJECTS

Apache Superset Open Source Contribution | *Engineering Large Software Systems* *Nov. 2025 – Dec. 2025*
- Fixed Apache Superset Issue #35347 by implementing end-to-end query cancellation for Chart and Dashboard views.
- Added client and query ID tracking and wired frontend actions to backend cancellation logic to terminate active database queries (e.g., Trino).
- Ensured parity with existing SQL Lab cancellation behavior without introducing regressions or database migrations.
- **Technologies Used:** Python, JavaScript/TypeScript, React, Trino, Apache Superset

QualiD App and Website | *Intro to Software Engineering* *Jan. 2025 – Apr. 2025*
- Developed a web platform to centralize ESG reporting workflows with AI-assisted data analysis.
- Collaborated in a four-person team to design scalable architecture and implement full-stack features using Agile practices.
- Contributed to requirements analysis, system design, and iterative development cycles.
- **Technologies Used:** Django, TailwindCSS, JavaScript, PostgreSQL, WebRTC, OpenAI API

HikeOn Event Planning Application | *Software Design* *Sep. 2024 – Dec. 2024*
- Designed an event planning and safety application for outdoor recreational activities.
- Applied object-oriented design principles and patterns including MVC, Observer, and Factory.
- Integrated real-time weather data, safety alerts, and mapping functionality.
- **Technologies Used:** Java, Java Swing, WebRTC, OpenAI API, Google Maps API, OpenWeather API

RAID Storage Simulator | *Software Tools & System Programming*   *Mar. 2025 – Apr. 2025*
- Implemented a RAID-4-style distributed storage simulator in C with fault-tolerant parity-based recovery.
- Developed low-level block I/O and inter-process communication using Unix pipes.
- Implemented disk failure simulation, parity reconstruction, and signal handling for graceful shutdown.
- **Technologies Used:** C, Unix/Linux system calls

Dr. Mario Game Implementation | *Computer Organization*   *Oct. 2024 – Dec. 2024*
- Implemented a Dr. Mario style game in MIPS assembly, including gravity, collision detection, and scoring logic.
- Designed memory-mapped graphics rendering, animations, and real-time score display.
- Optimized data structures for efficient game state management under assembly-level constraints.
- **Technologies Used:** MIPS Assembly

Turtle Graphics Engine | *Introduction to Computer Science II*   *Jun. 2024*
- Developed a turtle graphics engine in C inspired by the Logo programming language.
- Implemented custom linked list data structures and command parsing logic for drawing operations.
- **Technologies Used:** C

TECHNICAL SKILLS

Languages: Java, Python, C, JavaScript, HTML/CSS, SQL, MIPS Assembly
Frameworks & Libraries: React, Django, Flask, Spring Boot, TailwindCSS, Node.js, JUnit, WebRTC
Databases & Platforms: PostgreSQL, MySQL, Salesforce
Developer Tools: Linux, Docker, Postman, Git, Confluence, VS Code, IntelliJ, Eclipse
APIs & Services: OpenAI API, HERE Maps API, Cohere, Cloudflare Pages, GitHub Actions

AWARDS & ACHIEVEMENTS

University of Toronto Scarborough Admission Scholarship (Sep 2023)

Ontario Scholar - Graduated high school with 98% average for Top 6 (2023)

RELEVANT COURSEWORK

Completed: Introduction to Computer Science I & II, Software Design, Computer Organization, Software Tools & System Programming, Introduction to Software Engineering, Engineering Large Software Systems