ADITYA SHINDE

BACHELOR OF ENGINEERING: COMPUTER ENGINEERING

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EDUCATION

Toronto Metropolitan University (formerly Ryerson University) *Sep 2022 - Apr 2027*
Bachelor of Engineering: Computer Engineering

- Courses: COE 318 - Software Systems | ELE 404 - Electronic Circuits | COE 428 - Data Structures & Algorithms

SKILLS

Languages: Java, C, C++, Python, VHDL, Matlab, HTML, CSS, JavaScript, SQL
Frameworks: React.js, Bootstrap, Node.js, Express.js
Tools & Software: SolidWorks, KiCad, Multisim, Git, GitHub, VSCode, Firebase, MongoDB, Quartus II, Office

EXPERIENCE

Software Developer *Oct 2024 - Present*
Metropolitan Aerospace & Combustion Hub (MACH)

- Coded the control system for a **liquid rocket**, implementing a control algorithm in **C++** and a **Python** Tkinter **GUI** for precise manual rocket control.
- Integrated **LabJack T7** DAQ with a **Go gRPC** server and **C++** backend, enabling real-time sensor data streaming from 20+ devices and valve actuation with less than 100 ms latency.
- Custom precise **LABVIEW** data logging system, capturing 300+ sensor data points/second from 20+ devices at 0.1 ms intervals for post-flight analysis.

Autonomous Navigation and Controls Team *Feb 2022 - Jul 2027*
Toronto Autonomous Systems Collective

- Developed autonomous rover navigation algorithms using **ROS2** and Gazebo, integrating **LIDAR, IMU, and camera** sensors for 95% accurate GPS-based waypoint navigation.
- Implemented real-time obstacle avoidance on **NVIDIA Jetson** Orin Nano via ROS2 (C++/Python), ensuring safe navigation for CIRC 2025 Competition.

External Relations Committee *Sep 2024 - Mar 2025*
Metropolitan Undergraduate Engineering Society

- Managed student **recruitment** and selection for university conferences and meetings.
- Set up meetings with Companies and Organizations and secured **Sponsorships** for MUES and MACH.
- Led planning and execution of events **supporting 1000+ first-year** university students.

PROJECTS

Portfolio Website | *HTML, CSS, JavaScript* https://adityashinde.vercel.app/

- Developed a personal portfolio website to showcase projects, skills, and experience.

POSTBoard | *React, TypeScript, Firebase, TailwindCSS* https://postboard.vercel.app/

- Built an AI-powered content platform with post generation using **Google GEMINI API** and a **React** frontend.
- Secure admin dashboard for CRUD operations and threaded comments via **Express.js** and **MongoDB.**
- Integrated **ImageKit** for media uploads and deployed full stack on Vercel using **Node.js.**

Audioscribe | *Python, PyAudio, Tkinter* https://audioscribe.vercel.app/

- Developed a real-time audio to text transcription utilizing **Whisper AI** for speech recognition under 0.8 seconds.
- Built a responsive frontend with **Next.js, TypeScript, and React,** supporting audio uploads up to 60 minutes.
- Implemented an interactive Audio Visualizer for real-time transcription feedback and file uploads.

Bank Database System | *Java, MySQL* GitHub

- A secure banking system in **Java Swing** supporting 100+ users for account, transaction, and PIN management.
- Utilized **MySQL** with optimized queries for efficient storage of accounts, transactions, and statements.

Pathfinding Visualizer | *JavaScript, HTML, CSS* *https://pathsolverdsa.vercel.app/*

- An interactive visualizer for pathfinding algorithms (**A*, Dijkstra's, BFS, DFS**) using **JavaScript** and **Python**.
- Enabled real-time 100×100 grid interaction with JavaScript, updating in under 2 seconds.
- Implemented algorithm **logic** with customizable animation speeds and visual feedback.