

Aaryan Biradar

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SKILLS

Core Skills: Python, C++, Java, TypeScript, JavaFX, React.js, Git, GitHub, CI/CD Pipelines, VS Code, IntelliJ, PyCharm

Tools & Tech: NLTK, OpenCV, Pygame, Arduino, RGB Sensors

PROJECTS

AI-Powered Focus and Productivity Application | *Python, OpenCV, Pygame, Git*

- AI-powered focus tracker with **Python** and **OpenCV** for real-time face and eye detection to monitor attention.
- Designed a dynamic alert system in **Pygame** to trigger animated popups when inactivity or distraction is detected.
- Implemented modular input tracking with **pynput** to monitor keyboard and mouse activity for user inactivity.

AutoPark Management System | *Java, JavaFx*

- Built a **JavaFX-based** sales and inventory app with **real-time updates** for cart, inventory, and sales data.
- Designed **object-oriented classes** for inventory items and operations like **transfers, sales,** and resets.
- Optimized **data handling** using **sorting algorithms** and **efficient structures** for dynamic inventory management.

Redesign of the University Website (1st place, Hack The Tunnel) | *TypeScript, React.js*

- **Led a team** to enhance Carleton University web application, significantly improving user experience and usability
- Utilized **TypeScript** and **React.js** to create responsive components and implement organized state management.
- Used **Git** and **GitHub** for version control, managing project tasks and team collaboration effectively.

Arduino Two-Wheel Line Following Robot | *Arduino, RGB Sensors, Motor Control*

- Designed a two-wheeled autonomous robot using **RGB sensors** for real-time line detection and path tracking.
- Programmed motor control logic with **PWM signals** and **H-Bridge drivers** for motion and direction changes.
- Optimized **feedback loops** and **real-time processing** through sensor calibration and testing for accurate navigation.

EXPERIENCE

Youth Coding Instructor

Jan 2024 - Jun 2024

Dovercourt Recreation Centre

Ottawa, ON

- **Led** introductory **C++ sessions** for 25+ students, focusing on core programming concepts.
- Developed hands-on coding exercises to reinforce **algorithm** and **data structure** knowledge.
- Motivated students to engage in **competitive programming**, guiding them toward **national competitions**.

Program Leader

Sep 2022 - Jun 2024

Dovercourt Recreation Centre

Ottawa, ON

- **Led** operations, ensured **safety** compliance, **managed crises**, and **organized activities** to meet objectives.

EDUCATION

Carleton University - 4.0/4.0 GPA

Ottawa, ON

Bachelor of Science in Computer Science

Sep 2024 - Apr 2028

- Concentration: **Artificial Intelligence and Machine Learning**