

# Krish Bhagirath

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## EDUCATION

### McMaster University

Bachelor of Engineering in Computer Engineering

Hamilton, ON

Sep. 2024 – Apr. 2028

- GPA: 3.9/4.0
- Awarded \$20,000+ in merit-based entrance scholarships for academic excellence

## EXPERIENCE

### Engineering Intern

May 2025 – Aug. 2025

Novologic

Toronto, ON

- Engineered full-stack features with Laravel, PHP, MySQL, and JavaScript, leveraging version control via Git while implementing the repository pattern and modular design best practices for scalable architecture.
- Prototyped an AI-driven help chatbot with React.js and Laravel to enhance user navigation and support.
- Built and optimized responsive email templates (HTML/CSS) and executed targeted campaigns for the education sector using CRM tools to optimize outreach.
- Conducted QA audits and edge-case testing to improve reliability, refine functionality, and ensure release-readiness.

### Software Developer

Sep. 2024 – Present

McMaster Medical Engineering Design Team (Med-T)

Hamilton, ON

- Contributed to the SafeStride Innovators team within McMaster MedT, collaborating with 10 cross-disciplinary members to design biomedical technology solutions.
- Supported development of CradleWatch, an infant monitoring system, by engineering an embedded prototype with sensors, servo motors, and a lightweight UI.
- Integrated software with electrical and mechanical subsystems to deliver a reliable, responsive prototype.

### Software Developer - Computer Vision Subteam

Feb 2025 - Present

McMaster RoboSub

Hamilton, ON

- Researched datasets and benchmarked hardware/software to inform vision model selection for AUV missions.
- Gained hands-on exposure to ROS2, Gazebo, PyTorch, and TensorFlow through real-time simulation and model deployment exercises.
- Currently advancing C++/Python development within ROS2 to support upcoming AUV integration.

## PROJECTS

### CradleWatch | Python, Raspberry Pi, MediaPipe, OpenCV, Flask, Twilio

Jan. 2025 - Apr. 2025

- Designed an AI-powered infant monitoring system using MediaPipe facial tracking and a pre-trained Vision Transformer to detect distress in real time.
- Deployed on Raspberry Pi with Picamera2 and OpenCV for real-time face tracking and servo-controlled camera.
- Implemented Twilio SMS notifications to alert caregivers of prolonged distress, delivering a fully functional prototype for proactive infant care.

### NBA Match Predictor | Python, Flask, React, scikit-learn, Jupyter Notebook

Aug. 2025

- Built an end-to-end machine learning pipeline (Random Forest, XGBoost, Ridge Regression) using 8 years of NBA data to predict match outcomes, improving accuracy from ~52% to ~70%.
- Increased model robustness and scalability by implementing rolling-window feature engineering and sequential feature selection, automated through GitHub Actions.
- Created a React UI enabling users to view weekly NBA predictions and track historical model accuracy.

### PawGress | Javascript, Node.js, React-Native, HTML, CSS, Cohere

February 2025

- Built a cross-platform React Native app with gamification and a dynamic dog avatar to visualize habit progress.
- Implemented local state management with AsyncStorage to save user habits and progress history across sessions.
- Integrated the Cohere API to generate personalized habit recommendations and motivational feedback.

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, C++, JavaScript, PHP, MATLAB, HTML/CSS, MySQL

**Frameworks & Libraries:** React, Laravel, TensorFlow, scikit-learn, pandas, OpenCV, Tailwind CSS

**Developer Tools & Hardware:** Git, VSCode, Postman, Arduino, Raspberry Pi, ROS2, Autodesk Inventor, Granta