Kshithij Malebennur

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Kitchener, ON, Canada | 647-741-9333

Skills Overview

- **Programming Languages |** Python • C++ • C • ROS • Java
- **Web Development |** HTML • CSS • JavaScript • MySQL • React.js • Ruby on Rails
- **CAD Software |** AutoCAD • SolidWorks
- **Digital Content Creation |** Adobe Photoshop • Premiere Pro • After Effects • Blender Animations
- **Soft Skills |** Collaboration • Communication • Problem Solving

Training and Certifications

Harvard CS50AI Certification | Completed May 2023

Harvard CS50 Verified Certification | Completed Dec 2022

CPR-C First Aid Certification | Completed Aug 2022

Projects

A.R Glasses   June 2024 – Present

Personal Project

- Developing an augmented reality glasses interface using Python, integrating AR code for seamless user interaction.
- Utilizing optical waveguides and mini projectors to project digital displays directly in front of the user's eyes, achieving immersive augmented reality overlays.
- Implementing advanced algorithms for real-time image processing, computer vision, and AI-powered enhancements to optimize visual clarity and responsiveness.
- Exploring machine learning techniques for improved gesture recognition and contextual interaction to elevate the AR experience.

A.L.F.R.E.D (Assistant for Lazy Folks Requiring Endless Directions)   June 2017 – May 2024

Personal Project (Code Upon Request)

- Developed ALFRED, a Python-based AI assistant with self-learning capabilities, designed to ensure high-quality software performance and streamline user interactions through intelligent automation.
- Engineered ALFRED using RNN frameworks, along with Spacy and BERT models, for advanced NLP, sentiment analysis, and AI-driven web search capabilities.
- Integrated AR technology into ALFRED using OpenCV for hand gesture recognition, enabling intuitive control of volume, music, and mouse operations with real-time responsiveness.
- Enhanced ALFRED with object detection via computer vision, facilitating precise 3D model generation for 3D printing and expanding its application potential in AI-powered design.

Self Driving Vehicle System   May. 2024 – Aug. 2024

Personal Project (Code Upon Request)

- Developed a self-driving car software using AI and machine learning techniques, implementing over 35 modules, including lane detection, object recognition, and computer vision for autonomous navigation.
- Optimized adaptive cruise control using Python, Yolov7, and OpenCV, enhancing the system's response and accuracy.
- Improved video processing with multi-threading for efficient lane departure warnings and collision avoidance.
- Tested, fine-tuned, and iterated AI models using YouTube video simulations to simulate real-world driving scenarios, improving the AI model's performance, robustness, and adaptability to varied environments.

Stock Price Predictor   Sept. 2023 – Nov. 2023

Personal Project

- Developed an automated data pipeline using machine learning techniques to fetch and preprocess historical stock data, incorporating key technical indicators for model training and feature engineering.
- Designed a hybrid CNN-BiLSTM-Transformer model to enhance feature extraction, improve data analysis, and increase prediction accuracy for financial forecasting.
- Built and compared multiple machine learning models, including Random Forest and XGBoost, to identify the most effective approaches for integration and decision-making.
- Created tools to evaluate and visualize model performance for ongoing refinement.

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Volunteering Experience

Co-Founder   Aug. 2023 – Aug. 2024

Vasant Noire | Kitchener, ON
- Designed a user-focused, responsive website using HTML, CSS, and JavaScript.
- Designed consumer fashion attires based on luxury and streetwear trends to attract customers.
- Produced 3D advertising content with Blender animation skills and SolidWorks 3D modeling to boost marketing.
- Developed and executed test cases for the website to identify defects, ensuring a seamless user experience.

Social Media Manager   May. 2022 – Dec. 2022

SoniaKapasi | Toronto, ON

- Developed marketing content, including blogs, promotional materials, and social media advertisements, enhancing brand visibility and engagement.
- Created an AI-powered tool leveraging machine learning to analyze viewer interactions per post, providing actionable insights into user engagement.
- Utilized a custom AI tool to benchmark top-performing posts within the same genre, gaining insights into viewership trends and engagement metrics.

Vice President of Public Relations   Feb. 2021 - June 2021

Gavel Club Uplus Education | Remote
- Collaborated in weekly workshops designed to enhance public speaking abilities and reduce social anxiety among participants, achieving noticeable improvements in communication skills and confidence over a six-month period.
- Participated in weekly executive meetings focused on increasing social media viewership and devising strategies to boost engagement, successfully attracting a larger customer base.

Education

Bachelor of Engineering | Engineering Systems and Computing | Co-op   Sept. 2023 – Present

University of Guelph | Guelph, ON
- Relevant courses | Object Oriented Programming • Linear Algebra • Data Structures • Digital Systems Design

Ontario Secondary School Diploma   Sept. 2021 – June 2023

Cameron Heights Collegiate Institute | Kitchener, ON
- Engineering Club Co-Leader | Leadership • Python • C++ • SolidWorks
- Programming Club Executive | Leadership • Python • C++ • C
- Honor Roll student | Grade 12 Computer Science average of 100%.
- I.B Certificates | SL MATH • SL PHYSICS

Academic Involvement

Google Developers Student Club   Sept. 2023 – Present

University of Guelph | Guelph, ON
- Improved programming skills while making new connections through various workshops, challenges, and a hackathon.

Gryphon Racing FSAE Team   Sept. 2023 – Present

University of Guelph | Guelph, ON
- Collaborating on the design, engineering, and testing of a Formula SAE race car, enhancing skills in automotive systems and teamwork.

Gryphon Robotics Team   Sept. 2024 – Present

University of Guelph | Guelph, ON
- Engaging in the design, development, and programming of autonomous and remote-controlled robots, fostering skills in robotics systems, coding, and team collaboration.