Pasindu Wickramarathna

Innovation Enthusiast

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Education

The University of Kelaniye.
BSc Honours in Computer Science (Undergraduate)

Skills

Programming Languages:
- **JavaScript, Python, Java,** C, HTML, CSS

AI & ML development:
- **TensorFlow, Pytorch**, **Scikit-learn**, LangChain, HuggingFace

Analytical Tools:
- **Pandas, NumPy**

Web development:
- **Node, Spring Boot, Flask, React**

Database:
- **MySQL, PostgreSQL, MongoDB**

Cloud:
- **AWS**

Software:
- **Docker**, *Lucidchart*, GitHub Projects, **Comet ML**, CodeSandbox

Core Competencies:
- **Leadership** - *Batch representative (2022-2024) | Led Team Valkyrie to TECHX 2023 Ideathon finals (IEEE Computer Science Chapter) | Led Team FutureGen to HackVenture1.0 2023 Ideathon semifinals (AIESEC).*

About Me

I am an innovative and driven individual with a passion for MLOps and web development. I am renowned for my strong leadership abilities and excel in dynamic environments. **My ambition is to create more job opportunities and develop groundbreaking products that will bolster the Sri Lankan economy**

PROJECTS

AUTOMATIC NUMBERPLATE RECOGNITION SYSTEM.

- **Problem:** The manual pen-and-paper system for vehicle recognition and logging at our faculty's main gate is inefficient, error-prone, and time-consuming for security personnel.
- **Solution:** Develop an automated system to identify and log vehicle entries and exits, storing the data in a centralized database accessible to security guards and administration.
- **Impact: Enhanced efficiency by automating vehicle logging**, **provided easy access to vehicle data** for staff and ensured centralized and organized entry/exit records.
- **Technologies: YOLO**, **EasyOCR**, React, MySQL, Flask

AUTOMATIC PAPER MARKING TOOL.

- **Problem:** University lecturers spend a significant amount of time manually grading and managing papers, which is time-consuming and inefficient.
- **Solution:** Develop an automatic grading tool to streamline and fully automate the exam marking process.
- **Impact: Reduced manual grading effort**, expedited the marking process, and improved efficiency in handling exam papers.
- **Technologies: Pytorch**, Node, React, Flask, PostgreSQL,OAuth,WebSockets**,HuggingFace, LangChain**

ELEPHANT ALERTING SYSTEM FOR TRAINS.

- **Problem:** Elephants colliding with trains pose a serious threat to both the elephants and the train system.
- **Solution:** Collaborate on developing an elephant alerting system for trains, focusing on the computer vision aspect to prevent collisions and protect both elephants and train infrastructure.
- **Impact:** Improved safety for elephants and **enhanced protection for the train infrastructure, reducing collision risks.**
- **Technologies: YOLO, OpenCV,** React, MySQL, Flask, Node

Certifications

Web Development:

- The Complete 2024 Web Development Bootcamp - *Udemy*

AI & ML:

- Neural Networks and Deep Learning Improving Deep Neural Networks
- Structuring Machine Learning Projects
- Machine Learning with Python: Zero to GBMs
- Data Analysis with Python: Zero to Pandas

SQL:

- The Complete SQL Course - *Udemy*

Achievements

NON-ACADEMIC:

- Got the chance to represent University of kelaniye in university games(SLUG) 2023.

ACADEMIC:

- Finalist TECHX 2023 Ideathon (IEEE Computer Science Chapter)
- Finalist Intellihack 3.0 Finalist (UCSC)
- Semifinalists in HackVenture 1.0 (AIESEC University of Kelaniye)

SONG EMOTION PREDICTOR.

- **Problem:** Music streaming apps like Spotify do not utilize song emotion when suggesting a song for users. Existing song emotion predicting systems only use song lyrics to predict the emotion.
- **Solution:** Develop a system that predicts song emotion using both song audio and the song lyrics to provide more accurate and emotionally relevant song suggestions.
- **Impact: Enhanced user experience on music streaming platforms by delivering song recommendations** that align more closely with the user's current emotional state, thereby increasing user satisfaction and engagement.
- **Technologies: TensorFlow, Flask**

EDU-SMART CLASSROOM MANAGEMENT SYSTEM (in progress)

- **Problem:** University administrators are unable to control access to lecture rooms properly, and students must manually fill out forms to book a lecture room. Additionally, university administration struggles to get student feedback on teaching performance because students are not interested in filling out lengthy feedback forms.
- **Solution:** Develop a comprehensive system that includes an in-classroom monitoring system and a smart lock for easy management of access and room booking. The in-classroom monitoring system will assess student engagement using facial expressions, record the lecture, summarize it, and check this summary to ensure that the teacher complies with the course outline. These measures will help in evaluating teaching performance.
- **Impact:** Enhanced management of lecture room access and bookings, streamlined feedback collection, improved teaching performance evaluation, and enriched lecture quality, thereby increasing operational efficiency and enhancing the educational experience.
- **Technologies: YOLO, OpenCV Haar Cascades, MTCNN, DeepFace**, Google Web Speech API, **LAMA3, RAG Model,** Arduino,**SpringBoot,Flask**