PAMITH SALWATHURA

Electrical Engineering Undergraduate

PROFILE

Highly motivated and dedicated person with strong work ethic, adaptability, and fast learning ability. Thrives in team and independent settings, collaborating effectively to achieve goals. Devoted to continuous learning and delivering innovative solutions.

CONTACT

- 📞 +94 772057878
- in linkedin.com/in/pamith-salwathura-51830921b
- 📧 salwathurapc.20@uom.lk
- 🎧 https://github.com/BeatBard

TECHNICAL SKILLS

- Machine Learning and AI
- Large language models
- Programming (Python, C++, Java)
- Robotics Operating System (ROS)
- PCB design
- Electronics

SOFT SKILLS

- Critical Problem Solving
- Adaptability
- Communication & Interpersonal Skills
- Leadership & Collaboration

WORK EXPERIENCE

Vega Innovations – Trainee Electrical Engineer
2023 Nov – 2024 May
- Contributed to the automotive electronics department.
- Worked on the EV charge controller project.
- Designed and implemented an EV datalogger using the PocketBeagle single-board computer and Grafana dashboards.
- Utilized CAN communication and embedded technologies for EV applications.

RoboticGen Pvt Ltd. – Head of Academy
2023 Mar – 2024 Jan
- Head of the Academy, overseeing operations and team management.
- Developed strong leadership and project management skills.
- I have acquired in-depth knowledge of the latest robotics technologies.

EDUCATION

BSc Engineering Honors Degree specialized in Electrical Engineering - University of Moratuwa (2020 Aug – Present)
- Minor in **Pattern Recognition**

Richmond College Galle (2006 – 2019)
- G.C.E A/L (2019) - Physical Stream – 3As
- G.C.E O/L (2016) – 9As

PROJECTS

Finetuning an LLM for a Low Resource Language and integrating with a Wheelchair to navigate based on User commands.
Sponsored Project | Decryptelix | Research Publication in Progress

- Conducted LoRA fine-tuning by collecting datasets through web scraping and synthetic data generation.
- Developed a checkpointing mechanism to resume and optimize the continued pretraining process.
- Researched fine-tuning large language models (LLMs) for low-resource languages under financial constraints, focusing on practical deployment

CLUBS AND SOCIETIES

- Secretary of IEEE Power Electronics Society University of Moratuwa
- Assistant Secretary of Classical Musical Society University of Moratuwa.
- Secretary of Richmond College Science Society.
- Member of the School Orchestra.

End-to-End Machine Learning Pipeline for Customer Churn Prediction
Independent Project

- Designed a complete ML pipeline for predicting customer churn with an imbalanced dataset.
- Preprocessed data (feature encoding, handling missing values, scaling) and built models like Logistic Regression, Random Forest, and XGBoost.
- Applied SMOTE to address class imbalance and improved performance through hyperparameter tuning.
- Achieved significant improvements in F1-Score and accuracy with documented results.

Machine Learning Project: Convolutional Neural Network for Image Classification
Semester 5 - Group Project | August 2023 – October 2023

- Designed and evaluated a custom CNN model, comparing its performance against a pre-trained ResNet architecture, achieving notable improvements with the custom implementation.
- Leveraged the Adam Optimizer for effective training and applied sparse categorical cross-entropy to ensure accurate and efficient loss calculation, resulting in a highly robust model.

Maze Solver Project Competition
Semester 7 - Group Project

- Developed a maze-solving robot using the Floodfill algorithm combined with Depth First Search (DFS) for efficient pathfinding.
- Implemented the algorithm on an Arduino microcontroller, optimizing its performance despite constrained resources.
- Integrated ultrasonic sensors to detect obstacles and navigate the maze accurately.
- Successfully designed and executed the project, showcasing a practical application of algorithms and hardware integration.

COURSES & CERTIFICATIONS

- Machine Learning Specialization - Advanced Learning Algorithms
  Offered by Stanford University - USA

- Machine Learning Specialization -
  Supervised Machine Learning: Regression and Classification
  Offered by Stanford University - USA

- Creating Multi Task Models With Keras – Cousera Project network