RASHMIN MUNASINGHE

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Rashmin Munasinghe | rashminnn | Rashmin Munasinghe

OBJECTIVE

Seeking a challenging position in Artificial Intelligence to leverage my expertise in computer vision, deep learning architectures, and machine learning algorithms. Aiming to contribute to innovative projects at the intersection of AI research and practical problem-solving in fields such as object detection, natural language processing, and intelligent systems development.

EXPERIENCE

Sampath IT Solutions *Nov 2024 – May 2025*
Internship Trainee *Colombo, Sri Lanka*

- Developed a YOLOv5-based proctoring system achieving 84.2% precision and 86.2% mAP50.
- Implemented biometric face recognition for secure LMS authentication and identity verification.
- Integrated real-time AI inference models into production environments with optimized latency.

EDUCATION

General Sir John Kotelawala Defence University *2022 – 2025 (Expected)*
B.Sc. (Hons) in Electronics and Telecommunications Engineering (GPA: 3.6/4.0) *Rathmalana, SL*

Thurstan College *2016 – 2018*
GCE Advanced Level – Physical Science Stream *Colombo, SL*

PROJECTS

Multi-Person Textured 3D Mesh Reconstruction *Ongoing Research*

Tools: PyTorch, PyTorch3D, Stable Diffusion (SDXL), OpenCV

- ***Motivation:*** Solving texture occlusion challenges in realistic 3D avatar generation for AR/VR applications.
- Developed a pipeline using a **Global Z-Buffer** depth-testing algorithm to eliminate "texture bleeding" in dense scenes.
- Fine-tuned an **SDXL-based inpainting model** to synthesize realistic textures for occluded regions using custom masks.
- Applied morphological texture padding and relaxed backface culling for seamless UV surface rendering.

Phishing URL Detection System *Mar – Jul 2025*

Tools: Python, XGBoost, Random Forest, Flask

- ***Motivation:*** Addressing cybersecurity threats through real-time ML-based phishing detection.
- Built an ML-based detection system achieving 93.57% accuracy and 97.67% AUC.
- Deployed a full-stack Flask application for real-time URL threat analysis and cybersecurity monitoring.

Customer Churn Prediction Model *Oct – Dec 2024*

Tools: Python, Scikit-learn, Pandas

- ***Motivation:*** Enabling proactive customer retention through predictive analytics on imbalanced datasets.
- Developed a classification model achieving 94.9% ROC-AUC on a dataset of 143K samples.
- Optimized performance for minority class recall (65%) to mitigate significant class imbalances.

Voice-Assisted AI Chatbot on Raspberry Pi *Dec 2023 – Feb 2024*

Tools: Python, Whisper, Google Gemini API, Raspberry Pi

- ***Motivation:*** Demonstrating practical edge AI deployment on resource-constrained hardware.
- Developed a voice-controlled chatbot integrating Whisper for speech recognition and Gemini LLM via API.
- Implemented real-time speech-to-text processing and text-to-speech response system with natural conversation flow.

SKILLS

- **Languages & Tools:** Python, C/C++, Bash, Git, Linux, Raspberry Pi, Flask
- **AI & Computer Vision:** PyTorch, PyTorch3D, TensorFlow, OpenCV, YOLOv5/v8, SMPL-X
- **Generative AI:** Diffusion Models (SDXL), Texture Inpainting, Image Synthesis
- **Data Science:** NumPy, Pandas, Scikit-learn, Matplotlib, XGBoost

AWARDS AND ACHIEVEMENTS

- **Top 5% (Ranked 204/4,381)** – Kaggle Playground: Binary Prediction with Rainfall Dataset (2025)
- **Top 5% (Ranked 6/115)** – Kaggle: Synthetic to Real Object Detection (Domain Adaptation) (2025)
- **Top 30% (Ranked 30/102)** – Kaggle: Synthetic 2 Real Object Detection Challenge 2 (2025)

LEADERSHIP & VOLUNTEERING

- **Director of Membership Promotions:** IET KDU Chapter (2024 – 2025)
- **Education Team Member:** Electronic, Robotics & Innovation Club – KDU (2023 – 2024)

REFERENCES

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