Shamila Jeewantha

CONTACT

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ABOUT ME

I am a Computer Science and Engineering undergraduate at the University of Moratuwa, with a focus on machine learning and integrated computer engineering. I am excited to explore innovative approaches and contribute to advancements in intelligent systems.

SKILLS

- **Programming Languages:** Python | Java | C++ | JavaScript | TypeScript | VHDL
- **Technical Fields:** Machine Learning | Full Stack Development | Embedded & Edge computing
- **Databases:** MySQL | Firebase | Redis | PostgreSQL
- **Tools & Services:** Git | VS code | Docker | RabbitMQ | GCP | Kaldi
- **Frameworks:** React | React Native | NestJS | Flask | DeepStream | Pytorch

EDUCATION

BSC ENG HONS, COMPUTER SCIENCE & ENGINEERING

University of Moratuwa 2021 - Present

Specializing in Integrated Computer Engineering | CGPA : 3.53

ROYAL COLLEGE, COLOMBO 7

2011 - 2019

- G.C.E A/L 2019: 3 A Passes (Physical Science Stream)
- G.C.E O/L 2016: 9 A Passes

CERTIFICATIONS

- **Supervised Machine Learning: Regression and Classification** - coursera (cert)
- **Advanced Learning Algorithms** - coursera (cert)
- **Unsupervised Learning, Recommenders, Reinforcement Learning** - Coursera (cert)
- **Complete Intro to Web Development** - FrontendMasters (cert)
- **Knowledge Workshop on High Performance and Mission Critical Software Development Using C++** - LSEG

EXPERIENCE

PROMISEQ GMBH

2023 Nov - 2024 May

Software Engineering Intern

- Developed video analytics pipelines using NVIDIA DeepStream framework in C/C++, with various input sources and custom AI models.
- Transformed a passive Redis database system into a real-time system using Redis notifications with optimized read/write operations.
- Designed a System Health Check program to monitor the availability of RabbitMQ, Redis, and DeepStream pipelines at startup and runtime.
- Created a sample I/O control application for NVIDIA Jetson, ensuring Docker compatibility for remote deployment.

TEACHING ASSISTANT

2024 Jul - 2024 Nov

Computer Architecture

- Conducted lab sessions for semester 3 students under the supervision of Dr. Chathuranga Hettiarachchi.

PROJECTS

ADAPTIVE MULTI-SPEAKER DIARIZATION

2024 - Present

(Ongoing final year project)

Developing a computationally efficient End-to-End Neural Diarization (EEND) model with a novel encoder-decoder designed to handle conversations with an unknown number of speakers.

[Pytorch, Kaldi, Shell]

Developed a Sinhala and Tamil speaker diarization dataset and made a research publication in CHiPSAL workshop at COLING 2025 titled “SiTa - Sinhala and Tamil Speaker Diarization Dataset in the Wild”

(Website) (Github) (Proceedings)

INTERESTS

- **Photography**
- **Astronomy**
- **Languages**
- **Drawing**
- **Badminton**
- **Websites**
- **DIY Projects**

SOFT SKILLS

- **Virtual Collaboration**
- **Networking**
- **Technical Writing**
- **Attention to Detail**
- **Project Management**

REFERENCES

Dr. Uthayasanker Thayasivam
Head of Department
Department of Computer Science and Engineering,
University of Moratuwa
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Dr. Sulochana Sooriyaarachchi
Senior Lecturer
University of Moratuwa
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Saatviga Sudhahar
Senior Machine Learning Scientist
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TRAFFIC LIGHT DETECTION WITH SNN 2024
A traffic light detection system implemented on a Nexys A7 FPGA board that captures video input, processes the frames using a spiking neural network, and outputs the detection results to a VGA display. *(Github)*
[VHDL, Python, MATLAB]

CROP MONITORING SYSTEM 2023
An aerial monitoring system to segment cultivated areas in a field that helps farmers with land planning and expansion. A drone with an onboard JETSON NANO B01 is used to capture and segment field images with computer vision and are made available through a user interface for decision-making. *(Github)*
[Pytorch, Opencv, Flask, React]

SEEKIE ROBOT 2024
A crawler robot with real-time video feedback built using a Raspberry Pi 3 Model B and an ESP32-CAM, which can be controlled through an Android mobile app over the internet featuring fine-grained speed and independent track control.
(Website) *(GitLab)*
[React Native, Python, Websockets, Express.js]

FITSYNC MOBILE APP 2024
Developed a mobile app enabling customers to share body measurements with dressmakers. The app also allows customers and businesses to register, accept orders, and manage measurement entries seamlessly. *(Github)*
[React Native, NestJS, PostgreSQL]

EBC WEBSITE 2023
A website for a local home construction company, Edirisinghe Building Construction (EBC), hosted on a Google Cloud virtual machine. The site was built using WordPress and the Hestia control panel.
[Google Cloud VM, Hestia CP, WordPress]

SUPPLY CHAIN MANAGEMENT SYSTEM 2022
Developed a web-based supply chain management system that completely automates the supply chain process using SQL functions and triggers.
[MySql, React.js, Express.js]

SIMPLE PROCESSOR WITH VHDL 2022
A simple 4-bit nano-processor to perform primary mathematical operations using Xilinx Vivado Design Suite software to program the Digilent BASYS 3 development board with VHDL.
[VHDL, Vivado]

PINTOS USER PROGRAM IMPLEMENTATION 2022
Implemented features in Pintos that enable the execution of user programs, including thread management, system call support, and handling concurrency.
[C]

EMAIL CLIENT PROGRAM 2022
A simple E-mail application using Java and Object Oriented Programming principles to send manual and scheduled emails.
[Java, SMTP]

OTHER

- Contributed to and demonstrated a drone-based soil monitoring system at EXMO and Techno 2023 exhibitions.
- Volunteered in delivering workshops on microcontroller based systems to ICT school teachers and A/L students.
- Worked as a freelance math contributor at Photomath, Inc., San Mateo, CA, United States.