

# Shanilka Haturusinghe

Wadduwa, Sri Lanka

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## EDUCATION

**University of Kelaniya, Sri Lanka**

March 2020 - October 2024

Bachelor of Science Honours in Computer Science Degree

Specialization: Artificial Intelligence

GPA: 4.0/4.0

*Ranked #1 among all students across all degree programs in the Faculty of Computing and Technology, graduating in 2025*

**Royal College, Colombo, Sri Lanka**

July 2016 - September 2018

GCE Advanced Level in Mathematics Stream (English Medium)

Results: A in Combined Mathematics, B in Physics, B in Chemistry

## PUBLICATIONS

**S. Haturusinghe**, T. C. Weerasooriya, M. Zampieri, C. M. Homan, and S. R. Liyanage. *Subasa: Adapting Language Models for Low-resourced Offensive Language Detection in Sinhala*. To appear in Proceedings of the 2025 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies (Volume 4: Student Research Workshop), Albuquerque, New Mexico. Association for Computational Linguistics. <https://arxiv.org/abs/2504.02178>

## EXPERIENCE - ACADEMIC

**University of Kelaniya**

February 2025 - Present

Demonstrator & Teaching Assistant

- Serve as Teaching Assistant for the courses *DSCI 32012 - Advanced Database Applications*, *CTEC 22043 - Object Oriented Programming*, *AINT 32012 - Digital Image Processing and Computer Vision*, and *CSCI 22082 - Object-Oriented Programming — II*.
- Conduct tutorials and lab sessions for the aforementioned courses.
- For *CSCI 22082*, led the practical-based lectures for Spring Boot: planned and conducted comprehensive, project-based lessons that progressively covered the fundamentals up to advanced topics in MVC application development in Spring Boot.
- Assisted faculty members in updating the course syllabus for better alignment with industry standards.
- **Key Technologies:** Java, Spring Boot, Python, OpenCV, SQL, PL/SQL Oracle Database XE 18

## EXPERIENCE - INDUSTRY

**Embla Software Innovation (Pvt) Ltd**

October 2023 - April 2024

Software Engineer Intern

- Developed and implemented the "Scrapbook" feature within the Embla FT genealogy application, allowing users to personalize scrapbooks with customizable page templates.
- Integrated editable text and photo elements, enabling users to modify content, upload, delete, and adjust images and text for enhanced personalization.
- Built and maintained front-end and back-end components using C#, Angular 9, .NET Core, TypeScript, and JavaScript, ensuring smooth functionality and performance.
- Enhanced existing backend of FT application to support scrapbook features and enhance user interaction.
- Collaborated with product teams and developers using Agile methodologies, Jira, and Bitbucket to deliver high-quality features and meet project deadlines.
- Utilized tools such as Visual Studio, Visual Studio Code, FastReport Designer, and Figma for development, debugging, and design tasks.
- **Key Technologies:** C#, Angular 9, .NET Core, TypeScript, JavaScript, REST Web API, FastReport, Figma

**Xemplar Pte. Ltd**

September 2022 - May 2023

Intern - Software Developer

- Developed a Sri Lanka License Plate Detection proof of concept using Python and TensorFlow by leveraging YOLO models for robust license plate detection in images. Employed OpenCV for image preprocessing (resizing, filtering, and edge detection) to optimize detection accuracy, and integrated Tesseract OCR to extract alphanumeric text from the detected license plates.
- Designed and implemented a real-time chat feature for the IFAWPCA mobile app, built with React Native. Integrated Firebase for seamless real-time messaging, utilizing Firebase Realtime Database and Firebase Authentication for user management, secure login, and instant message synchronization across devices.

- **Key Technologies:** Angular, Laravel, Python, TensorFlow, OpenCV, Tesseract OCR, React Native, Firebase, Git

## EXPERIENCE - RESEARCH

**“Subasa” Research Project** with Advisors: Dr. S.R. Liyanage & Dr. Tharindu Cyril Weerasooriya

October 2023 – December 2024

Conducted the *Subasa* project as first author, developing and evaluating low-resource offensive language detection models for Sinhala using novel strategies.

- Designed and implemented *Subasa-XLM-R*, a framework integrating intermediate pre-finetuning via Masked Ratio-nale Prediction to address Sinhala’s morphological complexity and scarcity of labeled data.
- Implemented task-specific fine-tuning strategies for Llama (3.2B) and Mistral (v0.3) models, achieving 15–20% improvements in zero-shot generalization over baseline architectures.
- Evaluated models on SOLD benchmark dataset, establishing standardized evaluation metrics for Sinhala offensive language detection — Outperformed GPT-4o (zero-shot Macro F1: 0.78) and prior SOTA models by 12% gain.
- Open-sourced all models and codebase on GitHub, enabling downstream applications in social media moderation systems for Sinhala-language platforms.
- **Key Technologies:** Python, PyTorch, Hugging Face, LangChain, Unsloth, Google Colab, Google Cloud Compute Engine

## PERSONAL PROJECTS

### Deep Learning based real-time Facial Age and Gender Detection System

- Developed CNN models for age and gender detection, integrated into Android and web applications for real-time predictions. Backend implemented with TF-Serving and Flask, and frontend built using React.
- Deployed system using TensorFlow for model inference and integrated a model-serving pipeline with preprocessing. Ensured real-time interaction through web and mobile interfaces.
- **Key Technologies:** Python, Flask, TensorFlow (+ TF-Lite, TF-Serving), React, Android Studio, Kotlin, Heroku

### Real-Time Fashion Recommendation System on H&M Kaggle Dataset

- Developed a MLOps-driven fashion recommendation system using H&M’s Kaggle dataset, implementing a 4-stage architecture with decoupled ML pipelines for feature processing, training, and inference.
- Implemented a two-tower neural network architecture for customer&item embedding generation, utilizing Hopsworks Vector Index for embedding storage and retrieval.
- Built comprehensive ML pipelines including feature engineering, model training (two-tower model for candidate generation + CatBoostClassifier for ranking), and automated deployment via GitHub Actions.
- Created and maintained feature groups in Hopsworks Feature Store, implemented model versioning in Model Registry, and deployed a Streamlit frontend on Stream Cloud.
- **Key Technologies:** Python, TensorFlow, Hopsworks (Feature Store, Model Registry, Serving), Sentence-Transformers, CatBoost, Polars, GitHub Actions, Streamlit

## AWARDS

- Gold Medal (2025) – Alumni Association of the University of Kelaniya – Awarded for achieving the highest GPA (4.0/4.0) in the entire Faculty of Computing and Technology with First Class Honours<sup>1</sup>
- Gold Medal (2025) – Faculty of Computing and Technology – Awarded for achieving the highest GPA (4.0/4.0) in the Bachelor of Science Honours in Computer Science Degree program with First Class Honours<sup>2</sup>
- Google Cloud Research Credits Program (Award GCP19980904) – Awarded \$1000 in research credits

## EXTRA CURRICULAR

### Huawei Seeds for the Future - 2023

- Team Leader for Team Sri Lanka at Huawei Seeds for the Future - 2023 – Selected as one of only four top university students from a highly competitive pool, earning the opportunity to visit China.
- Received mentorship from top industry experts on cutting-edge technologies including 5G, AI, Cloud Computing, and Digital Power.
- Participated in the Global Tech4Good competition, honing skills in leadership, problem-solving, and entrepreneurship.

## REFERENCES

### Dr. S. R. Liyanage

Senior Lecturer, Department of Software Engineering  
Faculty of Computing and Technology, University of Kelaniya  
**Email:** sidath@kln.ac.lk, **Phone:** 071 649 8614

### Dr. Tharindu Cyril Weerasooriya

Research Scientist, Accenture (USA)  
**Email:** t.weerasooriya@accenture.com, **Phone:** +1 585 967 6292

<sup>1</sup>Officially conferred at the graduation ceremony in May 2025

<sup>2</sup>Officially conferred at the graduation ceremony in May 2025