

Heshan Rashmika

Colombo, Sri Lanka | +94 75 965 8792 | heshan.rashmikakd@gmail.com
rashmika.me | linkedin.com/in/kdhrashmika | github.com/RashmikaKDH

PROFESSIONAL SUMMARY

Final-year BSc in Information Technology undergraduate with hands-on experience in full-stack development and AI/ML. Skilled in Python, JavaScript, SQL, Flask, REST APIs, MySQL, Scikit-learn, TensorFlow/Keras, NLP, and computer vision. Experienced in building database-driven web applications and integrating machine learning models into practical software solutions through academic and personal projects. Strong foundation in software engineering principles, model evaluation, secure authentication, and end-to-end intelligent system development.

EDUCATION

BSc in Information Technology | Final-Year Undergraduate

2023–Present

Rajarata University of Sri Lanka, Mihintale

G.C.E. Advanced Level | Commerce Stream

2021

St. Thomas' College, Matara

TECHNICAL SKILLS

Programming: Python, Java, JavaScript, C++, SQL

Software Development: OOP, MVC, CRUD, REST APIs, API Integration, Authentication, Git, GitHub

Machine Learning & Deep Learning: Scikit-learn, TensorFlow, Keras, PyTorch, CNN, VGG16, Transfer Learning

NLP & Multimodal AI: NLP, Hugging Face, DistilRoBERTa, Wav2Vec 2.0, Multimodal AI

Data & Computer Vision: Pandas, NumPy, Matplotlib, OpenCV, Vision Transformer (ViT), Image Processing, EDA

Web & Mobile: HTML, CSS, Flask, Android, Qt

Databases & Tools: MySQL, SQLite, Postman, Selenium, SonarQube, Jupyter Notebook, Google Colab, Android Studio

PROJECTS

CineInsight – AI-Powered Movie Review Analytics Platform | [GitHub](#)

Final-Year Group Project | Team Lead | Ongoing

Python | Flask | MySQL | PyTorch | Hugging Face | DistilRoBERTa | Wav2Vec 2.0 | Vision Transformer (ViT) | OpenCV | YouTube Data API

- Led the development of a multimodal AI pipeline for analyzing movie reviews by combining textual, audio, and visual features for sarcasm analysis using a cross-modal attention architecture.
- Implemented segment-level audio and video processing, feature extraction using DistilRoBERTa, Wav2Vec 2.0, and Vision Transformer models, and multimodal inference with confidence scoring.
- Built a working inference workflow that processes review segments, generates sarcasm predictions, and stores analysis results in structured CSV files; currently integrating the pipeline outputs with the Flask-based user interface.

Cat & Dog Image Classification – Deep Learning | [GitHub](#)

Group Project | Team Lead

Python | TensorFlow/Keras | CNN | VGG16 | Transfer Learning | Google Colab

- Developed and evaluated a binary image classification pipeline, starting with a baseline CNN and progressively improving the architecture to address overfitting and generalization.
- Applied Batch Normalization, Dropout, Data Augmentation, and increased image resolution to improve model generalization and reduce overfitting.
- Implemented VGG16 Transfer Learning with frozen pretrained layers and custom classification layers, achieving 98.64% validation accuracy with minimal reported overfitting.

FitNote – Fitness Activity Tracking Application | [GitHub](#)

Java | Android | SQLite | Material Design 3 | MPAndroidChart

- Developed an Android fitness tracking application with user authentication, workout logging, profile management, and real-time BMI calculation.
- Implemented SQLite-based CRUD operations for persistent offline storage of user profiles, sessions, and workout history.
- Built an interactive dashboard using MPAndroidChart to visualize weekly activity progress, with categorized workout tracking and responsive Material Design UI.

Breast Cancer Diagnosis – Machine Learning | [GitHub](#)

Python | Scikit-learn | Logistic Regression | KNN

- Developed and compared Logistic Regression and KNN classifiers using StandardScaler and 5-Fold Cross-Validation, achieving 95.08% and 96.49% cross-validated accuracy respectively.

Plant Growth Monitor – Image Processing System | [GitHub](#)

Group Project | Team Lead

Python | OpenCV | NumPy | Matplotlib | Jupyter Notebook

- Developed an image-processing pipeline for monitoring plant growth through time-lapse images, including image preprocessing, plant-region segmentation, and feature extraction.
- Implemented techniques for illumination correction, noise removal, edge sharpening, and segmentation to improve plant-region and leaf detection.
- Extracted growth indicators such as leaf count, plant height, area coverage, and color-based health metrics, with graphical analysis to track plant development over time.

Personal Organizer – Desktop Application | [GitHub](#)

C++ | Qt | SQLite

- Designed and developed a full-featured desktop application in C++ using Qt for GUI, applying core OOP principles to manage user finances and academic schedules.
- Implemented secure user authentication (sign-up/login) with persistent data storage via SQLite, along with income/expense tracking across multiple categories.
- Built category-wise budgeting with limit alerts and automated monthly financial reporting (income, expenses, savings) alongside an academic schedule manager with deadline reminders.

House Price Prediction – Machine Learning | [GitHub](#)

Python | Scikit-learn | Pandas | Linear Regression

- Built and evaluated a Linear Regression model on the California Housing dataset using an 80/20 train-test split, MSE and R² evaluation, actual-vs-predicted visualization, and prediction on new housing samples.

CERTIFICATIONS

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|---|---|
| • Object Oriented Programming in Java
Duke University — 2026 | • Python for Data Science, AI & Development
IBM — 2025 |
| • Programming with JavaScript
Meta — 2026 | • Postman API Fundamentals Student Expert
Postman — 2025 |
| • Databases and SQL for Data Science with Python
IBM — 2025 | |

EXPERIENCE

Time & Work Study Officer | Vogue Tex (Pvt) Ltd

Sep 2018 – May 2019

- Gained hands-on experience in a production environment while progressing from Trainee Time & Work Study Officer to Time & Work Study Officer.