

# Wishmitha Samadhi Mendis

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## SKILLS

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**Programming Languages:** Python, Java, C#, C++, PHP, JavaScript, HTML, CSS, Matlab

**Libraries:** PyTorch, Keras, TensorFlow, LlamaIndex, LangChain, DJango, Flask, NumPy, OpenCV, Scikit-Learn, Pandas, Matplotlib, Laravel, Scrapy, Apache Airflow

**Developer Tools:** Git, Anaconda, Maven, Docker, AWS ECR, AWS AppRunner, AWS RDS, AWS S3

**Languages:** English (Professional), Sinhala (Native)

## EDUCATION

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**University of Birmingham** College of Engineering and Physical Sciences      Birmingham, United Kingdom  
*M.Sc. in Artificial Intelligence and Machine Learning; Average: 80.55% (Distinction)*      Sep 2022 – Sep 2023

- **Relevant Coursework:** Mathematical Foundations of Artificial Intelligence and Machine Learning (94%), Machine Learning and Intelligent Data Analysis (90%), Neural Computation (84%), Visualisation (85%), Computer Vision and Imaging (61%), Current Topics in Artificial Intelligence and Machine Learning (78%), Artificial Intelligence and Machine Learning Project (78%)

**University of Moratuwa** Department of Computer Science and Engineering      Moratuwa, Sri Lanka  
*B.Sc. Engineering (Hons.) specialized in Computer Science and Engineering; GPA: 3.81/4.2*      Nov 2014 – Dec 2018

- Achieved **First Class Honours** for gaining a overall GPA over 3.7
- **Relevant Coursework:** Machine Learning (A+), Software Architecture and Design (A+), Linear Algebra (A+), Database Systems (A), Advanced Algorithms (A), Intelligent Systems (A), Differential Equations and Applications (A), Graph Theory for Computing (A), Data Structures and Algorithms (A), Object Oriented Software Development (A-), Software Engineering Project (A), Research and Development Project (A)

**Mahinda College**      Galle, Sri Lanka  
*GCE Advanced Level: Physical Science (2013); Z-Score: 2.2321*      Jan 2010 – Dec 2013

- Achieved A grades for all the subjects while obtaining a country rank of 251.
- **Coursework:** Combined Mathematics (A), Chemistry (A), Physics (A), General English (A), Common General Test (87)

## WORK AND RESEARCH EXPERIENCE

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**The PPav**      London, United Kingdom  
*AI Application Software Developer*      Aug 2025 – Present, Full-Time

- Designed and built LLM-powered document retrieval and structured report generation systems using Retrieval Augmented Generation (RAG) pipelines.
- Implemented advanced vector indexing and semantic search workflows for large document corpora to support accurate, context-aware generation.

**AxiomFuse**      London, United Kingdom  
*AI/Backend Engineer*      Apr 2025 – Aug 2025, Full-Time

- Developed Web3 backend systems integrating Ethereum and Solana smart contracts for custody, account abstraction, and DeFi workflows.
- Implemented and interacted with Solidity and Solana (Rust) smart contracts, including transaction execution, event parsing, and on-chain state management.

**brdge.ai**      London, United Kingdom  
*AI/Backend Engineer*      Feb 2024 – Apr 2025, Full-Time

- Develop Generative AI solutions including LLM based AI assistants using Retrieval Augmented Generation (RAGs) and LLM finetuning with advanced Vector Indexing techniques.
- Develop flask-based / DJango based APIs for AI assistants and containerize them using Docker to expose the endpoints for utilization. Hands-on experience using AWS Elastic Container Registry (ECR), App Runner, and GitHub actions for continuous integration and deployment.
- DJango based backend server development with SQL databases for various client projects.

- Develop LLM-based Generative AI platforms for structured document generation with the usage of advanced libraries including LlamaIndex and LangChain.

### **University of Birmingham**

*Computer Science Postgraduate Teaching Assistant*

Birmingham, United Kingdom

*Jan 2024 – May 2024, Part-Time*

- Working as a Teaching Assistant for Visualization module in M.Sc. in Artificial Intelligence and Machine Learning.

### **Cogniata**

*Data Science Consultant*

Colombo, Sri Lanka

*Apr 2022 – Aug 2022, Contract*

- Worked on two major projects to develop ML and NLP-based models to predict Tea Auction Prices and Supply Chain Disruptions.
- Incorporated data from different sources from the web, including Social Media and Financial Data sites using web scraping.
- Implemented an integrated end-to-end pipeline using Apache Airflow to automate the web scraping process, feed the data to the developed ML models, and make real-time predictions.

### **Hong Kong University of Science and Technology**

*Graduate Research Assistant*

Clear Water Bay, Hong Kong

*Aug 2019 – Feb 2022, Full-Time*

- Researched on the latest developments in Computer Vision and Deep Learning fields, focusing on utilising Deep Neural Networks for 3D Reconstruction.
- Worked on several research and development projects under the Vision, Graphics and Design Research group, expertizing in areas including Image Processing, Image Feature Extraction (SIFT), 3D Geometry Camera Models, Stereo Vision, Point Cloud Processing and Data Structures, Point Cloud Registration, 3D Mesh Processing, Structure from Motion (SfM), Multi-View Stereo (MVS), Neural Radiance Fields (NeRF) and Single-View 3D Reconstruction.
- Worked as a Teaching Assistant in MOOC courses for Digital Design, Ergonomics in Design, and Ergonomics in Action in edX platform and Digital Design and Software Engineering modules for the Hong Kong University of Science and Technology undergraduate students.

### **University of Moratuwa**

*Junior Consultant*

Moratuwa, Sri Lanka

*Jan 2019 – Aug 2019, Full-Time*

- Delivered lectures, evaluated undergraduate student assignments and conducted labs in Graph Theory, Machine Learning, Theory of Computing and Computer Communication modules.
- Instructed and guided undergraduate students to solve their learning difficulties and problems in different modules, assignments and projects.

### **WSO2**

*Software Engineering Intern*

Colombo, Sri Lanka

*Jul 2017 – Dec 2017, Internship*

- Worked in WSO2 Integration Team and developed an efficient and faster NoSQL datastore for WSO2 Message Broker.
- Learned about software development processes by collaborating in team meetings, adhering to best practices, version controlling, learning about CD/CI pipelines, code reviewing and documenting.

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## RESEARCH AND PROFESSIONAL PROJECTS

### **Detecting Ink from Ancient Documents Using Deep Neural Networks**

*Postgraduate Research Project at University of Birmingham*

*Jun 2023 – Sep 2023*

- This research project aims to use Deep Learning and Computer Vision to extract hidden ink signals from ancient carbonized Herculaneum papyri scrolls, allowing scholars to read the hidden text written on them while preserving their integrity.
- The project employs techniques such as U-Net models for Image Segmentation and Transfer Learning to reveal concealed ink signals.

### **Single View 3D Foot Reconstruction Using Deep Neural Networks**

*Research Project at Hong Kong University of Science and Technology*

*Aug 2019 – Aug 2021*

- Developed a Deep Learning-based 3D Reconstruction network to generate a 3D reconstructed human foot model using a single bottom viewpoint image of a foot (footprint image) as the input.
- State-of-the-art 3D reconstruction techniques, such as Occupancy Networks, were used in the implementation of this project.

## **Deep Style Transfer for 3D Objects**

*Research Project at Hong Kong University of Science and Technology*

*Jan 2020 – Feb 2022*

- Developed the 3D reconstruction module of the end-to-end 3D reconstruction and texturing pipeline for 3D objects where texturing style can be changed based on a reference style image.
- State-of-the-art 3D scene representation techniques, such as Neural Radiance Fields (NeRF), were used in the implementation of this project.

## **Tea Auction Price Prediction Tool**

*Development Project at Cogniata*

*Apr 2022 – June 2022*

- Developed an automated end-to-end auction price prediction tool for tea sales in Sri Lanka where external factors, including the economic state of the country and exporting countries, are used as features for the prediction model using sentiment analysis.
- The required data for the training of the model were obtained using web scraping in Social Media and Financial Data sites as raw texts, and Natural Language Processing (NLP) techniques were applied to the extracted data for the sentiment analysis. The final model was developed as a time series prediction model using a Long Short Term Memory (LSTM) network.

## **File-based Storage for WSO2 EI Message Broker Store**

*Software Engineering Internship Project at WSO2*

*Jul 2017 – Dec 2017*

- Implemented a file-based message (NoSQL) store for WSO2 Message Broker to improve overall publish/subscribe performances. Message broker store performances increased by about 10% during the testing phase.
- Technology stack of Java with OSGI framework with Key-Value based databases like LevelDB and Redis was used in the implementation.

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## **RESEARCH PUBLICATIONS**

### **Educational Data Mining: A Review on Data Collection Process**

*International Conference on Advances in ICT for Emerging Regions (ICTer)*

*Sep 2018*

- The paper proposes a framework with common guidelines for a successful and effective data collection method for educational data mining research.
- This publication was a research outcome of the final year undergraduate research project at the University of Moratuwa titled "*Data-Driven Instruction Strategies for Sri Lankan Schools*".

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## **REFERENCES**

Available upon request.