

VIMANSHA JAYARATHNA

BSc(Hons.) in Statistics & Operations Research

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Vimansha Madushani Jayarathna

PROFILE

Recent graduate with a BSc(Hons.) in Statistics & Operations Research (Second Class Upper Division), combined with hands-on experience in AI/ML engineering, full-stack development, and data-driven solution design. Skilled in building intelligent systems, integrating LLM-based features, and developing end-to-end web applications. Passionate about leveraging machine learning, optimization, and modern web technologies to create scalable, user-centric digital products.

WORK EXPERIENCE

Intern AI/ML Engineer

Oct 2025 – Present

Insharp Technologies

- Contributed to the development of a women's online clothing platform by designing AI-powered features such as a virtual fit-on room, automated measurement suggestions, body-type-based outfit recommendations, and intelligent outfit pairing.
- Integrated LLM-powered services (including Gemini-based APIs) to generate personalized styling insights and improve user experience.
- Developed the full frontend of the platform using Next.js and Tailwind CSS, with complete backend integration for both the client-facing and admin portals.
- Collaborated on model fine-tuning and API orchestration using Python, FastAPI, PostgreSQL, Swagger, and Postman.
- Worked with predictive modeling concepts including linear regression and deployed ML components within the production pipeline.
- Collaborated with the development team using Git and GitHub for version control and workflow management.

Tools & echnologies: Python, Linear Regression, FastAPI, Next.js, Tailwind CSS, PostgreSQL, Swagger, Postman

Intern Web Developer

Sep 2024 – Mar 2025

Department of Archaeology - University of Peradeniya

- Developed the official responsive website for the Department of Archaeology using PHP and React.
- Utilized Git and GitHub for version control and team collaboration.

Trainee Frontend Developer

Nov 2023 – Jul 2024

SprintCode Labs Software Company

- Gained hands-on experience in web development projects.
- Implemented provided UI designs, ensuring accuracy, adherence to design specifications, and responsiveness across various devices.
- Collaborated with the backend team to integrate frontend and backend functionalities.

PROJECTS

An Optimization Technique for Assembly Line Balancing in Apparel Sector

A Case Study at Brandix Apparel Solutions (Pvt) Ltd - Published Work

- Introduced a method for efficient line layout and developed a mathematical model for MO allocation, achieving a more efficient solution than the current manual method.
- Built a user-friendly web interface for automated MO allocation.
- Analyzed absenteeism trends using time series methods and proposed workforce planning improvements.

Tools & Technologies: Python, PuLP, Streamlit, Pandas, Time Series Analysis

Industrial Day 2024 Web App - University of Peradeniya

- Contributed mainly to the UI and frontend development of the Industrial Day 2024 Web App and Mobile App.
- Collaborated effectively with team members using GitHub for version control and project management.

Tools & Technologies: Figma, Flutter, React

Perceptron Classifier: Interactive ML Visualization App [↗](#)

- Developed an interactive web app that visualizes machine learning concepts with real-time decision boundary updates, allowing users to experiment and learn by doing.
- Engineered a Python Flask backend with custom NumPy perceptron and a frontend for dynamic, interactive model visualization and analytics.

Tools & Technologies: Python, Flask, NumPy, JavaScript, Plotly.js

AI-Powered Tweet Classification [↗](#)

- Developed a deep learning-based web interface to classify tweets as "personal health mentions" or "non-personal health mentions" using sequence models.
- Implemented LSTM and Bi-LSTM neural networks, achieving over 80% classification accuracy.

Tools & Technologies: Python, TensorFlow, Keras, Pandas, Scikit-learn, Matplotlib, Gradio, Google Colab

EDUCATION

BSc(Hons.) in Statistics & Operations Research | Second Upper

2021 – 2025

Faculty of Science - University of Peradeniya

Relevant Coursework:

- OOP, Data Structures, Web Programming, Database Management Systems, Design and Analysis of Algorithms, Artificial Intelligence, Neural Networks and Deep Learning
- Probability Theory, Sampling Techniques, Quality Control, Regression Analysis, Multivariate Methods, Time Series Analysis, Stochastic Processes, Statistical Data Mining
- Financial Mathematics, Operations Research, Network Optimization, Manufacturing & Logistics, Linear Algebra, Optimization Modeling

GCE Advanced Level (Physical Science)

2019

Ruwanwella Central College

- Results: BBB

SKILLS

Programming Languages – Python, Java

AI & Machine Learning – TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Matplotlib, OpenCV, MediaPipe

Database – MySQL, MongoDB, Snowflake, PostgreSQL

Web Technologies – React, Next.js, Flask, JavaScript, TypeScript, PHP, Bootstrap, Tailwind

Data Analysis & Visualization – Excel, Power BI, Tableau

Neural Networks & Deep Learning – NLP, CNN, RNN, LSTM

Version Control – Git, GitHub

Operating Systems – Windows, Linux

Development Tools – VS Code, Google Antigravity, PyCharm, Docker, Jupyter Notebook, Google Colab

API Testing Tools – Postman, Swagger

Soft Skills – Fast Learning, Communication, Teamwork, Analytical Thinking, Problem Solving, Adaptability

CERTIFICATIONS

Data Warehousing Workshop - Snowflake [↗](#) | Fundamentals of Azure AI services [↗](#) | React Basics [↗](#) |

Version Control [↗](#) | Fundamental AI Concepts [↗](#) | Perform analytics in Power BI [↗](#)

VOLUNTEERING

STEMUP Educational Foundation <i>Community Leader</i>	Aug 2023 – Present
<ul style="list-style-type: none">Engaging in various volunteering activities and leading volunteers to support educational initiatives aimed at promoting STEM education throughout the country.	
Statistical Circle - University of Peradeniya <i>Society Member</i>	2023 – 2024
Operations Research Society - University of Peradeniya <i>Committee Member</i>	2021 – 2022

REWARDS & INVOLVEMENTS

The Rising Star Award <i>STEMUP Educational Foundation</i>	2025
1st place in Social Services Category <i>ACES HACKATHON</i>	2023
ACES Coders v10.0	2023
RealHack 5.0 - 1st Round	2024
SLIIT bashaway - 1st Round	2023

LANGUAGES

- English
- Sinhala
- Tamil

REFERENCES

Dr. Hakim A. Usoof, *Head of the Department / Senior Lecturer*,
Department of Statistics & Computer Science - University of Peradeniya
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Dr. Niluka Rodrigo, *Head of the Department / Senior Lecturer*,
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