

Mamta Nallaretnam

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github

SUMMARY

As a Data Science enthusiast, passionate about creating machine learning solutions that integrate data-driven insights, I enjoy combining development with machine learning to design intelligent, efficient, and user-friendly experiences.

EDUCATION

University of Moratuwa, Sri Lanka

May 2022 – Present

Bachelor of Science of Engineering (Honors) in Computer Science and Engineering

- Vice Chairman, CIS Student Branch Chapter of IEEE.
- Committee Member, SIEE - Media and Event Management Committee.

BT/Vincent Girls' High School, Batticaloa, Sri Lanka

Jan 2007 – Oct 2020

(grade 01 to 13)

GCE Advanced Level (Mathematics, Physics, Chemistry)

Oct 2020

3A | 91st in island | Z - Score of 2.61

GCE Ordinary Level

Dec 2017

Passed with 9A

EXPERIENCE

AI ML Intern

Dec 2023 - Present

Ivedha Inc

Remote

- Contributed to an AI/ML project under the Machine Learning team, collaborating with international teammates.
- Worked on model development and optimization, focusing on practical AI applications in real-world use cases.
- Engaged in research and experimentation to improve model performance and deployment strategies.

Junior Researcher (Volunteer)

Jan 2024 - 2025

Aaivu Colombo

- Focusing on enhancing predictive accuracy by comparing the XGBoost model with neural network models, aiming to identify optimal approaches for forecasting future taxi demand trends.

Web Developer (Volunteer)

Nov 2024 - Jan 2025

CSE Department

- Designed and developed a website showcasing history of our department for the CSE 40 Programme

SELECTED PROJECTS

Crypto Trader (Individual Project)

Jan 2025 - Present

Stack: Microservices, Kubernetes, Binance API, Machine Learning

- A crypto trading and portfolio management app that provides real-time exchange rates, price trend predictions, a trading simulator, sentiment-based news analysis, and price alerts, all powered by a scalable microservices backend with Kubernetes.
- brainstorming with the backend structures

Weather Guide (Group Project)

July 2024 - Nov 2024

Stack: HTML, CSS, JavaScript, React, Python, Firebase, OpenMeteo API.

- Developed a weather forecasting app for tourists using **Time series models**, allowing business users to upload CSVs for analysis.

- Implemented user authentication via **Firestore**, and integrated OpenMeteo API for real-time weather data.
- Experimented with hybrid models by combining traditional methods and **XGBoost** for improved forecasting accuracy.

Bot Atla (Individual Project)

Aug 2024

[ViewRepo](#)

Stack: Python, PyTorch, NLP, JSON, Neural Networks.

- Developed a chatbot using **PyTorch** neural networks to classify user inputs into predefined intents and provide appropriate responses.
- Trained the model using multi-layer neural networks for intent classification, with **softmax** activation. Explored different training approaches using optimizers like **SGD** and **Adam** to improve accuracy.

Home Credit Risk Baseline

May 2023

[ViewRepo](#)

- Developed a predictive model for assessing home credit risk stability Utilizing **LightGBM** and **CatBoost** for model development, along with Python libraries.
- Used Stratified Group K-Fold cross-validation for reliable evaluation and conducted hyperparameter tuning to optimize accuracy.

NYC Taxi Travel Data Analysis (Research Project)

2024 - Present

[ViewRepo](#)

- Conducting research on the impact of the pandemic on NYC taxi travel data from 2019 to 2021, utilizing a windowing scheme and driving data through XGBoost to predict future trends post-pandemic.

Banking System (Group Project)

Sep 2023

[ViewRepo](#)

Stack: C#, MySQL, RDBMS, .NET Core.

- Designed and implemented an RDBMS database for a banking system.
- Developed user features for account management, transactions, and balance checks.
- Used .NET Core for backend and created database triggers/functions for data consistency.

SKILLS

Machine Learning Libraries: PyTorch, TensorFlow, Scikit-Learn

Data Analytics: Pandas, NumPy, Matplotlib

Databases: MongoDB, MySQL, Firebase

Cloud and DevOps Tools: Git, Docker, AWS

Languages: Python, Java, JavaScript, TypeScript

Web & Mobile Frameworks: React, React Native, Flask

Soft Skills: Teamwork, Communication, Problem-Solving

ONLINE LEARNING AND CERTIFICATIONS

AWS Academy Graduate - AWS Academy Machine Learning Foundations Issued by Amazon Web Services [View](#)
ML fundamentals, AWS Deployment

Foundation: Data, Data, Everywhere - offered by Google through Coursera [View](#)
Data Analytics, Performance Measurement

Coddy Tech - Machine Learning Fundamentals (Ongoing, currently on the final challenge) [View](#)
Covered comprehensive ML fundamentals, including core concepts, algorithms, and practical applications.

LANGUAGE PROFICIENCY

English: Fluent

Tamil: Native

ACHIEVEMENTS AND AWARDS

Participant, 2025 Signal Processing Cup: Deepfake Detection Competition

Ongoing research focused on detecting deepfakes, utilizing advanced signal processing techniques and machine learning models.

Ranked 3rd in National Level English Day, Copywriting (2011)

Participated in IEEEExtreme 17.0 (2023)

Duothan 4.0 - Inter-University Buildathon, NSBM Green University

Selected to Final Round (All island)

REFERENCES

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