NIRUTHIKKA SRITHARAN

Computer Science and Artificial Intelligence Enthusiast

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Colombo, Sri Lanka

EDUCATION

Bachelor of Science in Engineering Honours - Data Science & Engineering

Department of Computer Science and Engineering, Faculty of Engineering, University of Moratuwa

Jan 2020 – Jul 2024

- First-class honours | CGPA: *4.13 / 4.2* | Dean's list in all 8 semesters
- UNESCO Gold Medal - Best Academic Performance across the entire university
- IBM Gold Medal - Highest Overall GPA in Computer Science & Engineering
- IBM Engineering Scholarship - Highest GPA for Semesters 3 & 4 in the Engineering Faculty

G.C.E Advanced Level Examination

Methodist College, Colombo 03

March 2016 – August 2018

- Island Rank: 25 | District Rank: 9 | Z Score: 2.594

PROFESSIONAL EXPERIENCE

Software Engineer: AI-ML Team

Cut+Dry

June 2024 - Ongoing

- Developed AI services to enable a system that allows users to create orders in real time by speaking or uploading invoice images
- Designed and developed Machine Learning algorithms aimed at data enrichment, including:
  - Identifying similar products based on multiple attributes
  - Detecting outliers and clustering products linked by the same GTIN
  - Clustering similar brands and manufacturers
- Experience in fine-tuning and prompting Large Language Models, building custom Deep Neural Networks, and leveraging various AWS services.

Data Science Intern

OCTAVE

January 2023 - June 2023

- Improved the ML pipeline for the Dry Sales Forecasting client project.
- Augmented the KPI dashboard pipeline of Supply Chain Control Tower client project to accommodate customers' Change Requests.
- Engaged in Research and Development on Explainable Artificial Intelligence.
- Created elaborate documentations of KPI calculation and visualization for Supply Chain Control Tower project.
- Co-led the OCTAVE Intern Reading Group.
- Was a part of the Organizing Committee of Data Storm 4.0, one of OCTAVE's branding events.

PUBLICATIONS

EnsembleCAM: Unified Visualization for Explainable Cervical Cancer Identification

- International Research Conference on Smart Computing and Systems Engineering (SCSE), Colombo, Sri Lanka, 2024
- Best Paper Award in the Smart Computing Track

Interpretable Cervical Cell Classification: A Comparative Analysis

- 4th International Conference on Advanced Research in Computing (ICARC), Belihuloya, Sri Lanka, 2024
- Presented research at the conference.

Explainable Artificial Intelligence Driven Segmentation for Cervical Cancer Screening

- Under Review, IEEE Access

TEACHING EXPERIENCE

CS 3631 Deep Neural Networks

Department of Computer Science & Engineering, Faculty of Engineering, University of Moratuwa

July 2023 - September 2023

CS 3023 Software Engineering

Department of Computer Science & Engineering, Faculty of Engineering, University of Moratuwa

January 2024 - May 2024

ACHIEVEMENTS

ChallengerX Winner
Sri Lanka's first AI/ML Incubator programme and competition organized by IFS x Hatch to build a solution to model any disaster event and determine the best response strategy, 2023

APAN56 - Placed in Top 7 Teams
Datathon organized by 4 state universities to build a city recommendation solution for wind and solar energy projects based on meteorological data, 2023

Data Storm 3.0 Winner
Data Analytics Competition organized by OCTAVE and Rotaract Club, 2022

PROJECTS

XAI for Image Segmentation of Cervical Cancer Cells
Python, PyTorch, TensorFlow, OpenCV

📅 April 2023 – May 2024

- Used Explainable AI (XAI) interpretations of a model's decisions in classifying cervical cell images as cancerous or non-cancerous to segment the nucleus, cytoplasm, and background regions within the images.
- Designed and implemented two new algorithms, integrating Grad-CAM, LRP, GraphCut, and multiple clustering techniques, for a novel segmentation framework.
- Built a web-based software system incorporating the developed pipeline for usability.
- Conducted research at the BioHealth Informatics Group
- Collaborated with Ulster University, United Kingdom

USA Accidents Dashboard
Python, Power BI

📅 April 2023 – July 2023

- Developed an interactive PowerBI dashboard analyzing 2M+ US accidents records.
- Extracted insights on cause-effect relationships and environmental impact on accidents.
- Utilized Python libraries and DAX for data processing and visualization.

Damage Control
Python, Scikit-learn, Flask, ArcGIS, ReactJS, Chart.js, MongoDB

📅 December 2022 – May 2023

- Developed a web-based system with ArcGIS-powered interactive maps to model geographically distributed assets and disaster events.
- Built automated pipelines for data preprocessing, feature engineering, and predictive modeling to forecast damage based on historical data.
- Integrated with IFS DSE for optimal scheduling of post-disaster restoration tasks.

WeatherSpark
Python, TensorFlow, Flask, ReactJS, Chart.js, MongoDB

📅 July 2022 – December 2022

- Built a web application for short-term air temperature predictions with an interactive weather data dashboard.

Customer Churn Dashboard
Python, Scikit-learn, Flask, Power BI, HTML, CSS

📅 March 2022 – July 2022

- Built a web application for customer churn prediction with an interactive dashboard for insights to enhance retention.

DataSpark
Python, ReactJS, Flask, MySQL

📅 February 2022 – May 2022

- Developed a web based Data Science platform for users to upload, download, rate and review different datasets. Comprehensive details regarding the uploaded and approved datasets are also displayed for user convenience.

🏆 **3 min Challenge 1st Runner Up**
Intra-University 3-Minute Thesis Competition organized by IEEE Professional Communication Student Branch Chapter of University of Moratuwa, 2022

🏆 **Speech Olympiad XIV Champion**
Intra-University Public Speaking Competition organized by Gavel Club of University of Moratuwa, 2021

SKILLS

Technical
Machine Learning | Data Science | Data Structures and Algorithms | Software Development

Programming Languages
Python | SQL | JavaScript | Java

Libraries and Frameworks
OpenAI | PyTorch | TensorFlow | Scikit-learn | NumPy | Pandas | ReactJS

Tools and Other
AWS | Git | Jupyter Notebook | Power BI | MongoDB | PySpark | Databricks

Soft Skills
Research Writing | Public Speaking | Leadership | Teamwork | Analytical Thinking | Problem Solving

VOLUNTARY EXPERIENCE

Assistant Vice President Education
Gavel Club of University of Moratuwa

📅 March 2022 – March 2023

- Organized regular educational, themed meetings, club's flagship events, and mentored club members to improve their public speaking skills.

Member of Editorial Pillar
MoraSpirit

📅 April 2020 – May 2022

- Authored sports articles for publication on MoraSpirit, a social media network for uplifting university sports.

REFEREES

Prof. Dulani Meedeniya

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Principal Data Scientist
OCTAVE, John Keells Holdings