Mohamed Fazli Imam

Graduate Student Researcher
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Education

Mohamed Bin Zayed University of Artificial Intelligence Aug 2022 – Present
Master of Science in Machine Learning (Fully funded scholarship) *CGPA 3.60/4.00*

Sri Lankan Institute of Information Technology (SLIIT) Jan 2016 – Dec 2020
*Bachelor of Science (Hons) in Information Technology with **Data Science** Specialization* *GPA 3.81/4.00*

Experience

Data Science Intern Jun 2023 – Jul 2023
Abu Dhabi National Oil Company (ADNOC - Panorama Department)

- Conducted exploratory data analysis and deployed a sophisticated time series model to forecast the dynamic rate of flow for a gas cracker.
- Developed and implemented an innovative NLP-based Q&A system for drilling reports, leveraging LLM model APIs to extract valuable insights and deliver accurate contextual answers. REPO

Data Science Associate Feb 2022 – Jul 2022
STAX Inc

- Conducted due diligence for private equity firms to determine the viability of potential investments.
- Scraping reviews and listings from popular websites, I analyzed them to comprehend the client's market, its competitors, and consumer sentiment
- Integrated these insights with data from surveys and other sources, this comprehensive approach offered valuable intelligence for investment decisions.

Junior Data Scientist Jul 2021 – Dec 2021
National Intensive Care Surveillance Unit (NICST)

- Conducted exploratory data analysis and various data manipulation tasks to clean, transform, and prepare clinical trial datasets for analysis.
- Developed automation scripts to streamline the process of mapping data between different systems and formats.

Projects

Label-free Adaptation of CLIP for Remote Sensing Masters Thesis

- Developed and implemented a label-free adaptation method for remote sensing scene classification, ALP-RS.
- Explored the efficacy of auto-labelled prompt tuning by leveraging contextual knowledge from LLM to generate pseudo labels and adapt CLIP for remote sensing setting.
- **Submitted to European Conference on Computer Vision (ECCV)**
- Technologies Used: *PyTorch*

Fine-Grained Image Classification Using Counterfactual Learning Feb 2022 – May 2022

- Explored the impact of learned attentions and uncorrected (counterfactual) attentions on the final classification score in the context of fine-grained image classification.
- Conducted several experiments to analyze how counterfactual attentions, generated by perturbing the feature maps, would influence the classification score.
- Technologies Used: *PyTorch, GitHub*

Domain Adaptation for RGB to Thermal Images REPO Feb 2022 – May 2022

- Conducted an investigation into the effectiveness of combining feature-rich visible spectrum and thermal image modalities for urban road scenes in an unsupervised setting.
- Implemented a triple-branch weight-sharing transformer architecture for experimentation of domain adaptation.
- Technologies Used: *PyTorch, GitHub*

Football Outcome Prediction REPO Oct 2022 – Nov 2022

- Developed and assessed the effectiveness of a machine learning model for predicting the outcome of football matches using player statistics, team statistics, and previous match statistics.
- Scraped data related to teams participating in the FIFA 2021 World Cup and generated predictions for group stage matches to the grand finale.
- Technologies Used: *Python ML Libraries*

Automobile Damaged Component Detection Bachelors Thesis

- Developed and explored the capabilities of computer vision algorithms to automate the process of automobile accident claim processing.
- Trained and fine-tuned state-of-the-art CNN models using a web-scraped dataset consisting of images of automobile damaged components.
- Technologies Used: *TensorFlow, Google Colaboratory, Flask*

Optimizing Direct Mail Fundraising June 2019 – Oct 2019

- Developed a machine learning pipeline to optimize direct mail fundraising for using a fictional organization.
- The machine learning pipeline included a classification model for predicting the likelihood of a person donating and a regression model for estimating the donation amount they would likely contribute.
- Technologies Used: *Python ML and DL Libraries, Google Colaboratory, Flask*

IOT Temperature Prediction with Dashboard June 2019 – Oct 2019

- Implemented a NodeRED dashboard on IBM Cloud to visualize the forecasted prediction for the next 12 months based on the current date.
- Time series modeling was employed to forecast upcoming temperatures in popular cities across Sri Lanka.
- The built models were serialized deployed to be accessed via the MQTT protocol.
- Technologies Used: *Python, NodeRED on IBM Cloud, MQTT*

Visual Analytics with Batch and Streaming Data Jan 2019 – April 2019

- Integrated tracking codes into a mock-up hotel website and deployed it via GitHub pages to track and analyze user sessions using Google Analytics and Google Data Studio.
- Additionally, streaming analytics were performed for Uber-Lyft dataset using Siddhi, a cloud native Streaming Event Processing engine. A connection with a MYSQL database was established using JDBC to store and serve the data for streaming SQL queries in a real-time manner. Real-time query results were visualized in Tableau and PowerBI dashboards.
- Technologies Used: *Python, Google Analytics and Data Studio, Siddhi Engine, Tableau, PowerBI*

Publications

Fazli Imaam, Achinthya Subasinghe, Hiruni Kasthuriarachchi, Senura Fernando, Prasanna S. Haddela, Nadeesa Pemadasa, "Moderate Automobile Accident Claim Process Automation Using Machine Learning" in *2021 International Conference on Computer Communication and Informatics (ICCCI)*, 2021, pp. 1-6, doi:10.1109/ICCCI150826.2021.9457017. journal=2021 International Conference on Computer Communication and Informatics (ICCCI), year=2021, pages=1-6

Technical Skills

Languages: Python, R, SQL
ML Libraries: Pandas, NumPy, Scikit-learn, Keras, PyTorch
Cloud: ML in AWS, Azure ML Studio
Developer Tools: VS Code, Git, GitHub, Shell, Bash
Visualization Tools: Tableau, PowerBI

Achievements

- SLIIT Deans' List Recipient for Year 2 (Semester 1 and Semester 2)
- SLIIT Deans' List Recipient for Year 3 (Semester 1 and Semester 2)
- SLIIT Deans' List Recipient for Year 4 (Semester 1 and Semester 2)
- Fully-funded Masters Scholarship at Mohamed Bin Zayed University of Artificial Intelligence)

References

- Available on request