







# Fazli Imam

AI Researcher (Level II) at MBZUAI

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## EDUCATION

<b>Mohamed Bin Zayed University of Artificial Intelligence</b> <i>Master of Science in Machine Learning (Fully funded scholarship)</i>	Aug 2022 – May 2024 GPA 3.60/4.00
<b>Sri Lankan Institute of Information Technology (SLIIT)</b> <i>Bachelor of Science (Hons) in Information Technology with specialization in Data Science</i>	Jan 2016 – Dec 2020 GPA 3.81/4.00

## TECHNICAL SKILLS

**Programming Languages & Libraries:** Python, R, SQL, Scikit-learn, XGBoost, BeautifulSoup, Selenium, LangChain, FastAPI, Streamlit, Flask NumPy, Pandas, PyTorch, Keras, TensorFlow  
**AI/ML Frameworks & Tools:** HuggingFace, OpenAI API, MLflow, RAGs, Weights & Biases, Google Analytics  
**Data Engineering & Platforms:** ETL, Databricks, Docker  
**Cloud Platforms:** AWS (S3, EC2, SageMaker), Microsoft Azure (ML Studio, Databricks), Google Cloud Platform  
**Data Visualization Tools:** Tableau, Power BI, Seaborn, Matplotlib  
**Developer Tools:** Git, Bash scripting

## EXPERIENCE

<b>Machine Learning Researcher</b> <i>Mohamed Bin Zayed University of Artificial Intelligence</i> <ul style="list-style-type: none"><li>Led research initiatives on multimodality and visual-temporal reasoning in vision-language models notably experimenting with <b>LLAMA</b>, <b>LLAVA</b>, <b>GPT-4o</b>, <b>QwenVL</b>, <b>InternVL</b> and <b>Gemini-1.5 Pro</b>.</li><li>Developed and deployed a novel evaluation dataset comprising over <b>800</b> images and <b>two</b> distinct tasks to benchmark the performance of vision-language models. <a href="#">DATASET</a></li><li>Collaborated with external research groups, notably <b>Google Research</b>, <b>IBM Research</b>, <b>Cohere</b>, and <b>Alibaba Research</b>, as well as interdisciplinary teams, to advance cutting-edge research in AI.</li></ul>	Jul 2024 – Present
<b>Data Science Fellow</b> <i>Abu Dhabi National Oil Company (ADNOC - Panorama Department)</i> <ul style="list-style-type: none"><li>Led and built an <b>SARIMAX</b> time series model on <b>6.59 million</b> entries to forecast gas cracker flow rates, enhancing process efficiency. Performed end-to-end data preprocessing, cleaning, exploratory data analysis (EDA), feature engineering, and modeling.</li><li>Engineered an NLP-based Q&amp;A system for oil drilling reports using LLM APIs to extract insights and improve decision making. Experimented with embeddings from <b>DaVinci</b>, <b>GPT-3.5-turbo</b>, <b>Bard</b>, <b>Falcon-13B/40B</b> for query-context matching, evaluated on speed, cost, performance, and compute efficiency. <a href="#">CODE</a></li></ul>	Jun 2023 – Jul 2023
<b>Data Scientist</b> <i>STAX Inc</i> <ul style="list-style-type: none"><li>Conducted due diligence for private equity firms across <b>five</b> investment opportunities, leveraging data-driven insights and market analysis to evaluate potential deals and support strategic decision-making.</li><li>Engineered pipelines to scrape <b>100K+</b> reviews and listings from major platforms, enabling in-depth analysis of market trends, competitors, and consumer sentiment to deliver actionable business intelligence for clients.</li><li>Synthesized insights from <b>multiple</b> diverse data sources, including web scraping and survey data, to deliver strategic recommendations supporting clients' data-driven investment decisions.</li></ul>	Jul 2021 – Jul 2022
<b>Data Scientist</b> <i>National Intensive Care Surveillance Unit (NICST)</i> <ul style="list-style-type: none"><li>Led exploratory data analysis (EDA) and data transformation on clinical trial datasets comprising <b>96</b> variables for <b>800+</b> patients across <b>17</b> medical clinics, enabling analysis to support evidence-based decision-making in healthcare.</li><li>Engineered automation scripts to streamline data mapping across <b>five</b> systems and formats, cutting the processing time of the previously implemented system by <b>half</b> and significantly reducing manual effort in clinical workflows.</li></ul>	Nov 2020 – Jun 2021

## SELECTED PROJECTS

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### Label-free Adaptation of CLIP for Remote Sensing [LINK](#)

Masters Thesis

- Engineered and deployed a label-free adaptation method for **Remote Sensing Scene Classification (RSSC)**, which outperformed the prior state-of-the-art by **5%** across **10** benchmarks.
- Explored the efficacy of auto-labelled prompt tuning by leveraging contextual knowledge from LLMs including **GPT-4o**, **LLAMA**, and **Gemini** to generate pseudo labels and adapt **CLIP** for remote sensing context.

### Automating Automobile Accident Claim Process [LINK](#)

Bachelors Thesis

- Led and explored the capabilities of computer vision and machine learning algorithms to automate the automobile accident claim process, reducing manual intervention and streamlining operations.
- Developed a pipeline comprising four models, including **automobile make & model detection**, **damaged component detection**, **repair & replacement cost estimation**, and **churn prediction for customer retention**.

### Domain Adaptation for RGB to Thermal Images [CODE](#)

- Proposed a novel **Unsupervised Domain Adaptation (UDA)** approach for urban road scenes by transferring knowledge from RGB to thermal imagery using a triple-branch transformer architecture.
- Experimented with multiple transformer backbones (**DeiT**, **CvT**, **SWIN**) to classify pedestrians, cars, and bicycles across RGB and thermal domains; incorporated adversarial adaptation with a discriminator network and evaluated performance across various loss function combinations.

### Football Game Outcome Prediction [CODE](#)

- Engineered and assessed the effectiveness of a machine learning models to predict football match outcomes using **35** player attributes, **13** team-level variables, and **11** previous match statistics.
- Scraped data for all **32 teams** participating in the **FIFA 2021 World Cup** using **BeautifulSoup** and **Selenium**, generating predictions from group stage matches to the grand finale.
- Experimented with various models including **tree-based classifiers**, **Gaussian Naive Bayes**, **regression models**, **SVM**, **XGBoost**, and **neural networks** to evaluate prediction performance.

### Optimizing Direct Mail Fundraising

- Engineered a pipeline to optimize direct mail fundraising for a fictional organization using **8000+** data entries with **18** variables, including donation amount, neighborhood statistics, household demographics, and employment data.
- The pipeline included a classification model for predicting the likelihood of donation and a regression model for estimating the donation amount, experimenting with models such as **logistic regression**, **decision trees**, **random forests**, and **XGBoost**.

### IoT Temperature Prediction with Dashboard

- Led the development of a **Node-RED** dashboard on **IBM Cloud** to visualize 12-month temperature forecasts based on **5000+** historical data points.
- Designed and implemented time series models, including **ARIMA** and **Prophet (Facebook)**, to predict temperatures in major Sri Lankan cities.

### Visual Analytics with Batch and Streaming Data

- Deployed a mock hotel website with tracking codes to analyze user sessions via **Google Analytics** and **Data Studio**.
- Performed real-time streaming analytics on **190K+** Uber-Lyft data points using **Siddhi** and **MySQL**. Visualized insights using **Tableau** and **Power BI**, providing actionable insights for potential stakeholders.

## ACHIEVEMENTS

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- Led a research team during the Undergraduate Research Internship Program (UGRIP) at MBZUAI, which won the prestigious **Best Team Award** for outstanding innovation and collaboration.
- Earned a competitive **fully-funded Master's scholarship** at MBZUAI, awarded for demonstrated academic excellence, leadership, and strong research potential in Artificial Intelligence.
- Consistently ranked among the top performers and featured on the **SLIIT Dean's List** for six consecutive semesters across the second, third, and final years.

## PUBLICATIONS

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For a complete list of my publications, please visit my [Google Scholar profile](#).

## REFERENCES

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- Available on request