ALSAFAK KAMAL | AM23M004 | PR/33/AM/25/004

Indian Institute of Technology Madras | Github | LinkedIn

Education

Programme	Institute/Board	CGPA/Percentage	Year
M.Tech in Applied Mechanics	Indian Institute of Technology Madras	8.88	2023-Present
B.Tech in Mechanical Engg.	Dr. RML Awadh University, Ayodhya (U.P.)	81.64%	2017-2021
Senior Secondary	U.P. Board	75.6%	2017
Secondary	CBSE	8.0	2014

Scholastic Achievement

- Secured All-India Rank of **848** in **GATE 2023**.

Professional Experience

- **My Analytics School** *(Data Science Intern)* *Jun 2024 - Aug 2024*
  - **Led the 8 members team** and extracted the 100+ company's data by using **BeautifulSoup** as a Web Scrapping tool.
  - Built a **RAG-based chatbot** using **Langchain, Ollama** frameworks, Chroma for vectorDB and LLMs for embeddings.
  - Enhanced its performance by initiating **Cross Encoder** as a **Re-Ranker** and achieved the accuracy of **92%**.
  - Used **Streamlit** for designing of UI to give multiple PDFs as input and successfully deployed on **AWS EC2 instance**.
- **Paysmart Payment Technologies Pvt. Ltd., Chennai** *(Data Analyst Intern)* *May 2024 - Jul 2024*
  - Extricated the data for the **Inward remittance analysis** of India and prepared **automated** dashboard using **PowerBI**.
  - Enhanced marketing efforts through data-driven strategies for market expansion, led curriculum innovation initiatives and applied iterative improvements based on feedback to drive company growth and profitability.
  - Performed **competitive analysis** for the organization as well as **SWOT** insight for product development.

Projects

- **Predicting Meso-Scale Local Mechanical Properties using Fourier Neural Operator** *Aug 2024 - Ongoing*
  *M.Tech Project * (Phase 1), Guide: Prof. Ilaksh Adlakha*
  - Deployed a **Deep Learning Model** to predict the local mechanical response of **2D composite materials** precisely.
  - **FNO** was implemented to train and evaluate the model, utilizing a dataset derived from **Abaqus** simulations.
- **Time Series Analysis for Air Pollution Forecasting** *(Personal Project)* *Oct 2024*
  - Analyzed a dataset with 44,000 rows and 13 features, performing **univariate** and **multivariate** analyses.
  - Applied feature engineering techniques alongside **MinMaxScaler** normalization for effective data preprocessing.
  - Developed predictive models using **SARIMA** and **LSTM** with **Adam** optimizer, achieved **96.04%** accuracy by **MSE**.
  - Utilized **Dropout** technique and hyperparameter tuning to reduce overfitting and enhance model performance.
- **Named Entity Recognition with spaCy v3** *(Personal Project)* *Jul 2024*
  - Preprocessed and **tokenized** a custom NER dataset, converting text data into numerical indices and architected a model to classify text into categories such as PERSON, LOCATION, and ORG. using **Bi-directional LSTM**.
  - Visualized recognized entities in the text using **SpaCy's** tool for interpretation and acheived **96.7%** accuracy.
- **Sentiment Analysis Model for IMDb Movie Reviews** *(Personal Project)* *May 2024*
  - Implemented sentiment analysis on a balanced IMDB dataset with 50,000 reviews (positive and negative).
  - Enhanced model performance through **vectorization**, **stemming**, **lemmatization**, and **n-gram** usage.
  - Surpassed **90%** accuracy using word counts and **TF-IDF**, with **logistic regression** and **LinearSVC** models.
- **Data Analysis on Employee Data using SQL-PowerBI Integration** *(Personal Project)* *Dec 2023*
  - Merged multiple tables of Employee datasets and Performed Data Analysis using **MySQL Workbench**.
  - Executed **Joins, Views, Subqueries** and **Advanced queries** for department-wise analysis of KPIs such as salary, employee counts, gender ratio, and span of control for the company.
  - Transferred the data and organized different charts into an **Interactive** and **Automated** dashboard using **PowerBI**.

Technical Skills

- **Tools/Libraries**: Machine Learning, Deep Learning, NLP,Time Series Analysis, Transformer, Pandas, NumPy, NLTK, Seaborn, Matplotlib, Scikit-Learn, TensorFlow, LangChain, LangSmith, Google Colab, VS Code.
- **Programming Language and Visualization Tools**: Python, MySQL and MS-Excel, PowerBI, Tableau.

Positions of Responsibility

- **WebOps Seceratry**: Leading **10 members** in WebOps team to handle the AMSA, IIT Madras website. (Aug'23-Present)
- **Class Representative**: Serving as primary contact between peers and faculty to assess the problems. (Aug'23-Present)
- **Teaching Assistant**: Guiding **250**+ students in AM2540 Lab and **200**+ students in GN5003 Course. (Jul'24-Nov'24)

Area of Interest

- Data Analysis, Business Analysis, Problem Solving, Data Science, Machine Learning, Generative AI, Statistics.

Extra-Curricular Activities

- **Techno Exhibition**: Achieved **4th** Position among 80+ competitors in **5th National Level Techno Exhibition** organized by Dr.A.I.T, Bangalore in 2019.
- **Volunteer in Team Everest NGO**: Prepared an English Curriculum for empowering underprivileged children.