

Mohammed Asim

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EDUCATION

University of California, Davis

Master of Science in Computer Science

Davis, California

Sept. 2022 – Jan. 2025

Jamia Millia Islamia

Bachelor of Technology in Computer Science and Engineering

New Delhi, India

Aug. 2018 – June 2022

EXPERIENCE

Graduate Student Researcher

July 2023 – October 2024

Alzheimer's Disease Research Center, UC Davis Health

Davis, California

- Spearheaded the development of a high-performance **Convolutional Neural Network (CNN)** for intracranial cavity segmentation from MRI scans, achieving a Dice Similarity Score of **0.988**, reducing manual segmentation time by **70%**.
- Designed and implemented **data preprocessing pipelines** for a dataset of over **20,000** MRI scans, improving segmentation performance across varied head orientations by **25%**.

Big Data and Machine Learning Teaching Assistant

March 2023 – June 2023

Graduate School of Management, University of California, Davis

Davis, California

- Orchestrated hands-on learning experiences for **70+** students in the Big Data Analytics and Machine Learning course, boosting average engagement and comprehension scores by **20%**.
- Graded and provided feedback on **150+** assignments to ensure students achieved an understanding of advanced data analysis and machine learning concepts.

Software Engineering Intern

June 2021 – July 2021

Airports Authority of India, New Delhi

New Delhi, India

- Developed a web-based application to streamline inventory management, reducing reliance on paperwork and improving data accuracy by **30%** across **4** departments.
- Presented weekly progress reports and conducted system functionality training sessions for **15+** stakeholders, enhancing cross-departmental communication efficiency by **20%**.

PUBLICATIONS

- [1] "Predicting Next-Day Rainfall Using Machine Learning Techniques", **Springer**, 2024. [Link](#)
- [2] "Prediction of concrete compressive strength using deep neural networks", **Taylor & Francis**, 2023. [Link](#)
- [3] "Scour modeling using deep neural networks based on hyperparameter optimization", **Elsevier**, 2022. [Link](#)

PROJECTS

Real-Time Chat Application | *Node.js, Redis, Kafka, PostgreSQL, Next.js, Tailwind CSS, TypeScript* [GitHub](#) [Link](#)

- Designed and developed a scalable chat app using **Node.js**, **Redis (Pub/Sub)**, **Kafka**, **PostgreSQL**, and **Socket.IO** for real-time communication.
- Built an interactive frontend with **Next.js**, **Tailwind CSS**, and **TypeScript**, integrating **Google Authentication** for secure user login.
- Streamlined real-time message processing and scaling across multiple servers using **Kafka** and **Redis**.

Expense Tracker Application | *React.js, Node.js, MongoDB, Express.js, JWT, Heroku, Postman* [GitHub](#) [Link](#)

- Built a full-stack web application using **React.js**, **Node.js**, and **MongoDB** to manage and monitor financial transactions.
- Implemented user authentication with **JWT** and created a dynamic dashboard with data visualization for spending insights.
- Deployed the application on **Heroku**, ensuring scalability and accessibility with seamless performance.

TECHNICAL SKILLS

Languages: C, C++, Python, Java, JavaScript, SQL, PostgreSQL, HTML, CSS, TypeScript, Go, MATLAB

Frameworks: React.js, Angular, Node.js, MongoDB, Redis, Firebase, NextJS, Django, GraphQL, Spring, Kafka

Tools & Cloud: AWS, Azure, Google Cloud Platform, Git, Docker, Kubernetes, DynamoDB

Others: Machine Learning, Deep Learning, Artificial Intelligence, Computer Vision, NLP, Statistics, Data Science, TensorFlow, PyTorch, Scikit-learn, MS Excel, Data Structures & Algorithms, Tailwind CSS, JWT, Postman, Heroku, Agile, Terraform, Rest APIs