Mohsin Ali, Mohammed

6560, Montezuma Rd, San Diego, CA 92115
+1 (619) 273-7627 mmohammed5956@sdsu.edu alimohsin5431 mohammedmohsinali

Education

San Diego State University **Aug 2022 – May 2024**
Master of Science in Computational Data Science - Thesis *San Diego, California*

Indian Institute of Information Technology(IIIT-S) **Aug 2018 – June 2022**
Bachelor of Technology in Computer Science and Engineering - Thesis *SriCity, India*

Experience

Telaeris Inc **May 2023 – May 2024**
Software Engineer(Co-Op) *San Diego, USA*

- Developed Android applications with the Flutter framework for RFID-based access control systems, integrated RFID SDK into the Android native, and wrote native code in Java and Kotlin to establish communication channels between Flutter UI and Android native SDK.
- Contributed to the implementation of access control features and successfully integrated Facial Recognition technology into the existing systems.

Rupeek Fintech Pvt Ltd **January 2022 – July 2022**
Software ML Engineer (Co-Op) *Bangalore, Karnataka*

- Contributed to the Stone Weight Estimation for Gold Jewellery project by increasing and diversifying the jewelry dataset, training pretrained and custom models like SegNet, U-Net and YOLO v3. Furthermore, I utilized AWS SageMaker for deployment and production, along with managing data storage using S3 buckets
- I developed a benchmarking system for model testing and automated the entire process from data loading to model training and inference, resulting in a 10% increase in the model's performance. Additionally, by utilizing Arucu markers as a detection method, I reduced the model inference time from 13 seconds to 4 seconds, making the model applicable for low-latency systems.

AI Institute, University of South Carolina(AIISC) **January 2022 – December 2022**
AI Researcher *South Carolina, USA*

- **Proposed** a novel bi-gram and switching point-based rotary positional encoding technique in transformer to capture language mixing patterns for tasks such as Machine Translation, Named Entity Recognition, Part-of-Speech Tagging, and Sentiment Classification.
- **Mohsin Ali Mohammed**, Sai Teja Kandukuri, Neeharika Gupta, Anubhab Chatterjee, Parth Patwa and Amitava Das *"CONFLATOR - Incorporating Linguistic Structure through Positional Encoding into Code-Mixed Language Modeling"* **published in the 2023 Conference on Empirical Methods in Natural Language Processing(EMNLP)**.

Wipro AI Labs **January 2021 – December 2021**
AI Research Intern *Bangalore, Karnataka*

- **Proposed** a new Encoder-based Transformer model called PESTO, featuring dynamic and relative positional encoding with switching-point-based patterns to capture the patterns in Code-Mixed data.
- Achieved state-of-the-art (SOTA) results in the SentiMix task/Code-Mixed data without using any pre-trained heavy language models, whereas all other SOTA models utilized models such as BERT or XLNet.
- **Mohsin Ali**, Kandukuri Sai Teja, Sumanth Manduru, Parth Patwa, Amitava Das *"PESTO: Switching Point based Dynamic and Relative Positional Encoding for Code-Mixed Languages"* **published in the 36th AAAI Conference on Artificial Intelligence(2021-22)**.

PROJECTS

TailTalk Advisory: AI-Powered Pet Care Chatbot(Team Leader) **Jan 2024 – Ongoing**

- Developed a user-friendly Petcare AI app using **Flutter**, integrating the state-of-the-art **Llama2** model from **Hugging Face** and pretrained over 100 documents on Petcare.
- Utilized **AWS SageMaker** for scalable and cost-effective model training and deployment, ensuring reliability in managing machine learning workflows within the app's backend infrastructure.
- Implemented RESTful APIs using **AWS Lambda** and API Gateway to enable seamless communication between the Petcare AI app and the deployed Llama2 model. Facilitated real-time pet care guidance and support for users, enhancing their overall experience and satisfaction.

Society Maintenance Management System(Team Leader) **Aug 2022 – Dec 2022**

- Developed a **full-stack web application** to streamline the management of society maintenance records enabling users to access their payment histories and administrators to enforce penalties of 2% for users with outstanding dues, ensuring efficient financial management within the society.
- Designed and developed the frontend user interface using **React.js**, and implemented backend APIs and services using **Java Spring Boot**, integrating **MongoDB** for data storage and retrieval, resulting in improved efficiency and user satisfaction by 40%.

SKILLS

Programming Languages:	Python, C/C++, Java, Dart, SQL, HTML, CSS, Bash, Fortran, LaTeX
Frameworks and Libraries:	Tensorflow, PyTorch, Sklearn, Django, MERN, Java Springboot
Databases, Cloud and Bigdata:	MongoDB, MySQL, PostgreSQL, AWS, Google Cloud Platform (GCP), Hadoop, Spark
Mobile Development:	Flutter, Android Native, IOS, Postman, Android Studio, Git
IoT Technologies:	RFID, UHF, Honeywell Barcode