MOHAMED KAIF D

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EDUCATION

Indian Institute of Technology, Hyderabad *Oct 2022 - Present*
Bachelors in Technology

WORK EXPERIENCE

SDE Intern at Oralvis *May 2025 - July 2025*

- **Full-Stack Development**: Developed a **React** frontend with **Node.js**, **Express**, and **MongoDB** backend for a web app, enabling users to upload and store assets (PDFs, images) and integrated **Nodemailer** for automated email updates and report sharing.
- **Performance Optimization & ML Integration**: Implemented **Redis** for caching and **Bull queue** to manage high-traffic endpoints, reducing server load. Integrated an ML endpoint for image predictions and stored processed images in **AWS S3** for scalable storage.
- **Deployment & Scalability:** Deployed the application as **Docker** containers on **AWS EC2** using **GitHub Actions CI/CD pipelines**, ensuring seamless updates and improved scalability to efficiently handle increasing user demand.

TECHNICAL STRENGTHS

Languages	C, C++, Python
Frameworks	React, NodeJS,FastApi
Software & Tools	AWS, Git, Vercel, Postman, Linear , Excel
Databases	SQL,PostgreSQL, MongoDB

PROJECTS

FastAPI-Based Secure Backend for Land Document Handling Platform

- Built an authentication **s**ystem using FastAPI with **role-based access control (RBAC)** and integrated **Twilio** for OTP-based user verification.
- Used **PostgreSQL** for managing user roles, authentication data, and file access records.
- Enabled secure PDF uploads by admins, with files stored on **AWS S3** and selectively served to **authorized/requesting users.**
- The project officially approved by the **IAS of Vikarabad district**, Telangana, focused on land-related data management; currently in the testing phase before deployment.

Transformer-Based Affinity Prediction and Molecular Sequence Translation

- Fine-tuned **BERT-base** and **BERT-large** models to predict molecular binding affinity from SMILES representations as part of a course project.
- Trained and fine-tuned **T5-small, T5-base,** and **T5-large** models for generating molecular sequences from SMILES input, enabling sequence-to-sequence translation tasks in cheminformatics**.**
- Evaluated model performance using **Pearson correlation coefficient** (for BERT models) and **BLEU score** (for T5 models) to compare predictive accuracy and sequence quality**.**

Relevant Courses

- **Data science and application** using python .
- **Machine Learning and Numerical Methods .**