

Abdul Raheem

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Professional Summary

Information Technology undergraduate with experience spanning AI, machine learning, full stack development, and applied research. Demonstrated ability to build scalable software systems, develop data driven solutions, and translate research into practical applications through internships, publications, and industry projects. Recognized through competitive programs, technical leadership roles, and national level achievements.

Education

Chaitanya Bharathi Institute of Technology

Hyderabad, India

Bachelor of Engineering in Information Technology — CGPA: 9.13/10.0

Aug 2023 – May 2027

- **Relevant Coursework:** Data Structures & Algorithms, Machine Learning, DBMS, Operating Systems, OOP, Computer Networks, Software Engineering, Web Development, Data Analytics, Embedded Systems & IoT, Deep Learning, NLP

Experience

Project Intern

April 2026 – Present

Indian National Centre for Ocean Information Services (INCOIS)

Hyderabad, India

- Migrated a legacy single-coordinate SARAT simulation system into a multi-mode particle seeding framework supporting Multi-Location and Continuous Trajectory interpolation models with full backward compatibility
- Developed a Java Servlet controller deployed on Tomcat, implementing backward-compatible parameter routing for legacy simulation runs
- Orchestrated remote simulation pipelines via Bash scripts computing dynamic seeding durations using date arithmetic, executing Leeway drift models asynchronously over SSH, and post-processing particle coordinate outputs

Projects

Meta-LoRA: Few-Shot Molecular Generation via Context-Conditioned LoRA | *PyTorch, Transformers*

- Built a three-phase few-shot molecular generation pipeline on ZINC250k (224,568 molecules) using a 4-layer Pre-LN causal Transformer (3.19M parameters) with a regex-based SMILES tokenizer; froze all weights post pre-training to preserve chemical grammar through adaptation
- Designed a dual-branch context encoder fusing a bidirectional GRU over SMILES tokens with 2048-bit Morgan fingerprints into a 256-d vector **z**, injected as context-conditioned low-rank updates (rank 16) into Q/V projections of every frozen layer
- Achieved 96.8% SMILES validity, 98.4% uniqueness, 99.9% novelty, and mean Tanimoto 0.3747 across 10 held-out scaffold families; outperforms ZINC250k reference on drug-likeness (QED 0.751 vs. 0.730) with 90.7% clearing QED > 0.6

Application Tracker | *FastAPI, Next.js, PostgreSQL, Redis, Celery, spaCy*

- Built a full-stack job application tracking platform syncing Gmail, with an async Celery/Redis pipeline handling incremental sync, parsing, deduplication, and lifecycle state management
- Engineered a deterministic NLP extraction engine using spaCy NER, Regex, sender-domain heuristics, and keyword classification to parse company names, roles, and recruitment statuses directly from raw email content
- Designed a secure analytics dashboard with JWT authentication, encrypted credential storage, server-side pagination with search/filtering, and real-time application status tracking

Research Publications

- [1] “Evaluating LLM Reasoning on String Rewriting Puzzles: Prompting Strategies, Metrics, and Human–AI Comparison” *accepted at IEEE AI-SIIS 2026*
- [2] “Lightweight CNN Outperforms ImageNet-Pretrained ResNet18 for Multi- Class Alzheimer’s Disease Classification: A Domain Mismatch Analysis” *accepted at IEEE ICISC 2026*

Technical Skills

Languages: Python, Java, C, SQL, JavaScript, HTML/CSS

Frameworks & Libraries: PyTorch, Keras, TensorFlow, scikit-learn, Kafka, NetworkX, FastAPI, React.js, Node.js, Express.js, Pandas, NumPy

Databases: MongoDB, Hadoop, Oracle, MySQL, HiveQL, Spark SQL, PostgreSQL

AI/ML: AI Agents, NLP, Computer Vision, Deep Learning

Developer Tools: Git, GitHub, Cursor, Postman, Linux/Unix, GitLab

Certifications

MongoDB Associate Developer (Python) – MongoDB University

Salesforce Certified Agentforce Specialist – Salesforce

Oracle Certified Foundations Associate – Oracle University

Achievements

Selected for Amazon ML Summer School 2025

Hackathons: Won Best Use of Sarvam AI track award at HackPrix S3; Special Mention at COSC Hacktoberfest 2025

ALMA Maths Olympiad 2018: Awarded Silver Medal

Model United Nations: High Commendation Award – Vasavi MUN 2024 (UNHRC); High Commendation Award – GNITS MUN 2025 (UNHRC); Executive Board Member, CBITMUN 2025 (UNCSW) and GNITS MUN 2026 (IP)

Chief Advisor, VMedha CBIT: Led 45-member team organizing an annual techno-cultural fest (Aug 2025 – Mar 2026)

TS EAMCET 2023: State Rank 4,308 among 150,000+ candidates