Abjasree S

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Professional Summary

Lead Data Scientist (GenAI & Clinical AI) with 4+ years' experience turning unstructured data into actionable insights.
- Delivered 5 production NLP/CV models that lifted clinical data throughput 35 %.
- Accepted in Med-NeurIPS; AWS ML Associate certified.
- Hands-on with Python, PyTorch, Hugging Face, AWS/Azure, Snowflake, RAG and AI Agents.

Professional Experience

DATYCS   **Remote**
Lead Data Scientist   *Apr 2024 – Ongoing*
- **Steered a 6-member GenAI & Research squad**; built CI/CD on **AWS & Azure** that cut model roll-out time from **3 weeks to 5 days** (↓**80 %**).
- **Architected and deployed 3 transformer-based NLP & CV pipelines** converting **10 k+** unstructured AML/CLL charts into **Snowflake** tables, boosting data-processing throughput **35 %**.
- **Fine-tuned TrOCR for handwritten prescriptions**, raising transcription accuracy **25 %** and enabling real-time medication-safety alerts.
- **Deployed a Vision LLM on Azure** to parse multi-handwriting prior-authorization forms into structured JSON, elevating extraction accuracy **28 %** and cutting manual review time **45 %**.
- **Leveraged autonomous AI agents** to validate patient-specific search queries and auto-generate clinician responses, increasing query accuracy **30 %** and reducing reply time **40 %**.
- **Partnered with Eversana** to mine therapy-switch drivers in AML & CLL and lead adverse-effect/outcome analyses of key regimens; insights updated pharmaceutical market-access strategies.

IIT Madras   **Chennai**
Data Scientist   *Aug 2022 – Mar 2024*
- **Automated analysis of 1 000+ CT/MRI images** by building pipelines; trimmed manual pre-processing time **80 %**.
- **Raised renal-calculi and pulmonary-nodule diagnostic accuracy 18 %**
via CNN + radiomics models and Bayesian-optimised XGBoost.
- **Deployed patient-specific QA models** for Apollo Proton Cancer Center; cut QA turnaround **10 %** and flagged 12 high-risk plans/quarter.

Projects

1. Differentiating adenocarcinoma and squamous cell carcinoma in NSCLC   **Oct 2023 - Jan 2024**
(Guide: Prof. Ganapathy Krishnamurthy), Paper   *RBCDSAI, IIT Madras*
- **Built radiomics model** that distinguishes adenocarcinoma vs squamous cell carcinoma with **83 % accuracy**; decision-curve analysis showed net clinical benefit across thresholds.

2. Zero-Shot Image Registration through Feature Extraction (ZSIR - FE)   **Sept 2022 - October 2023**
(Guide: Prof. Ganapathy Krishnamurthy), Publication: Med-NeurIPS 2023   *RBCDSAI, IIT Madras*
- **Designed DNN feature-based zero-shot registration** improving Dice **+0.30** and running **6×** faster than SIFT on BRaTs.

3. Classification of Pulmonary nodules from Chest CT scans   **Sept 2022 - October 2023**
(Guide: Prof. Ganapathy Krishnamurthy), Paper   *RBCDSAI, IIT Madras*
- **Engineered radiomic features + XGBoost** on limited Indian dataset, achieving **89 % accuracy** (↑10% vs prior studies).

4. Automatic Detection of Renal Calculi   **Sept 2022 - July 2023**
(Guides: Prof. Balaraman Ravindran, Dr. Gokul S Krishnan)   *RBCDSAI, IIT Madras, GKMC*
- **Processed 163 CT scans** and built deep-learning pipeline reaching **85 % accuracy** (↑25 pp); slated for clinical deployment at GKMC radiology.

Education

Indian Institute of Science Education and Research, Tirupati   **Tirupati**
BS MS Dual Degree, CGPA: 8.0   *2015–2020*

G. H. S. S. Tholanur   **Palakkad**
Higher Secondary, Percentage: 97.33   *2013–2015*

J. N. V Thrissur   **Thrissur**
High School, CGPA: 10   *2012–2013*

Technical Skills

- **Languages:** Python (6 yr), SQL, C++, R, MATLAB
- **Frameworks:** PyTorch, TensorFlow, Hugging Face, Scikit-Learn, LangChain
- **Cloud & MLOps:** AWS (SageMaker, S3), Azure (ML, Functions), Snowflake, Docker, CI/CD
- **Domains:** GenAI & LLMs, Clinical NLP, Computer Vision, RAG, AI Agents, Reinforcement Learning

Certifications

- AWS Certified Machine Learning Engineer – Associate
- Deep Learning Specialisation (Coursera)
- Machine Learning – Stanford (Coursera)

Achievements and Awards

- INSPIRE SHE Scholarship – Top 1 % CBSE XII (2015–2020)
- Best Project – Game Recommendation Systems, Univ.AI (2022)
- Best Project – Time-Series Analysis on GAIA Data, Univ.AI (2022)