

SYED FAIZAN

MBBS • Master's in Professional Studies (Applied Machine Intelligence)

AI Research Scientist • Multimodal AI for Health

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PROFILE

AI researcher interested in multimodal AI for health. Currently an AI Research Scientist leading NLP-based structured data extraction from radiology reports. Master's in Professional Studies in Data Analytics & Applied Machine Intelligence from Northeastern University (GPA 4.0/4.0), building on prior training and practice as a physician (MBBS).

PORTFOLIO

Website: syedfaizaan.com GitHub: [SYEDFAIZAN1987](https://github.com/SYEDFAIZAN1987) Hugging Face: [DrSyedFaizan](https://huggingface.co/DrSyedFaizan) LinkedIn: [drsyedfaizanmd](https://www.linkedin.com/in/drsyedfaizanmd)

CURRENT APPOINTMENT

AI Research Scientist

April 2026 – Present

Language Technologies Research Centre (LTRC), IIIT Hyderabad

Hyderabad, India

Supervisor: Dr. Parameswari Krishnamurthy

- Lead the clinical-NLP pipeline for structured extraction from free-text rectal-cancer MRI reports: 54 standardised fields via a TF-IDF and fine-tuned Flan-T5-Large (783M) ensemble with domain-constraint post-processing, benchmarked against Gemini 2.0 Flash.
- Led a cross-model audit of whether chest X-ray vision-language-model attention overlays match radiologist bounding boxes, paired with a radiologist reader study (accepted, MICCAI iMIMIC 2026).
- Lead further research on medical vision-language model robustness and mechanistic interpretability, and on rare brain-tumour category discovery in intra-operative histology (manuscripts under review).

PROFESSIONAL EXPERIENCE

Team Lead, Data Analyst Consultant

Sept 2024 – Dec 2024

United Way Greater Toronto (UWGT)

Toronto, Canada

- Led NU Experiential Learning team delivering R-based analysis, a RAG-enhanced presentation platform (REPP), and Power BI dashboards on GTA socio-economic trends.
- Awarded 1st rank as Team Lead by UWGT; project showcased at the Northeastern University Showcase, Dec 2024.

Resident & Family Physician (MBBS)

2010 – 2023

Cauvery Hospitals · Ashwini Clinic · K.R. Hospital · Elite Nursing Home

Mysore, India

- Over a decade of clinical practice across inpatient, outpatient, and family-medicine settings — the domain foundation that anchors my AI-for-health research today.

EDUCATION

Master's in Professional Studies — Data Analytics & Applied Machine Intelligence

2024 – 2025

Northeastern University (GPA 4.0 / 4.0)

Toronto, Canada

M.B.B.S

Rajiv Gandhi University of Health Sciences — Mysore Medical College

Mysore, India

CORE SKILLS

- AI for Health:** Clinical NLP, structured extraction from radiology reports, medical imaging, AI-driven clinical decision support.
- Machine Learning & NLP:** Transformer fine-tuning (Flan-T5, BERT), LoRA, RAG, FAISS, ensemble methods, domain-constrained post-processing.

- **Generative AI:** LLM pretraining and fine-tuning, instruction tuning, prompt engineering, Gemini / Claude / OpenAI APIs.
- **Programming:** Python, PyTorch, TensorFlow, Hugging Face Transformers, scikit-learn, R, SQL.
- **Responsible AI:** Health data privacy, ethical AI practice, technical writing, stakeholder presentation.

SELECTED AI PROJECTS

Medical Imaging

- **3D Liver Segmentation** — UNet-based liver and tumour segmentation from 3D scans, validated via visual and loss analysis.
- **Left Atrium Segmentation** — U-Net on cardiac MRI; Dice Similarity Coefficient of 0.95.
- **Cardiac Detection** — Customised ResNet-18 with PyTorch Lightning for cardiac abnormality detection.
- **Pneumonia Classification** — ResNet-18 on chest X-rays reaching 84.5% validation accuracy with CAM visualisation.

Generative AI & Clinical NLP

- **Faizan's LLM** — Transformer-based LLM built from scratch, pretrained and instruction-tuned with LoRA, cosine-decay scheduling, and gradient clipping.
- **mindBERT** — BERT fine-tuned on 50k sentences for mental-health classification (stress, depression, bipolar, personality disorders, anxiety); deployed on Hugging Face Spaces.
- **DiabetesDietBot** — RAG + FAISS chatbot generating personalised Type-2 diabetes meal plans.
- **Heart Disease Prediction** — SVM classifier reaching 99.03% accuracy on clinical tabular data.

PUBLICATIONS

Under Review / Recently Accepted

Two first-author manuscripts currently under review at **AAAI 2027** and **EMNLP 2026** — medical vision-language model robustness and mechanistic analysis, and computational neuropathology (rare brain-tumour category discovery). Titles and preprints available on request.

Faizan, S. et al. *How Well Do Chest X-Ray VLM Attention Overlays Match Radiologist Boxes? A Cross-Model Audit and Radiologist Reader Study*. Accepted at MICCAI iMIMIC Workshop (Cross-Attention), 2026. Code: github.com/SYEDFAIZAN1987/cxr-vlm-attention-overlay-audit

Faizan, S. et al. *Structured Radiology Intelligence in Rectal Cancer MRI Reports: Annotation Schema, Inter-Annotator Agreement, and Error Taxonomy*. Accepted at ISGAR 2026.

Earlier Publications

Abhishekh, H. and Faizan, S. (2012). John Cade (1912–1980). Australian & New Zealand Journal of Psychiatry, 46(1), pp. 68–69.

Faizan, S., Raveesh, B., Ravindra, L. and Sharath, K. (2012). Pathways to psychiatric care in South India and their socio-demographic and attitudinal correlates. BMC Proceedings, 6(S4).

Faizan, S., Raveesh, B., Anjali, V., Lakshmanagowda Sujatha, R. and Sharath, K. (2012). The attitude of non-psychiatry doctors to psychiatry and its correlates in Mysore, South India. BMC Proceedings, 6(S4).

LANGUAGES

English (IELTS 9/9 General, 8.5/9 Academic) • Hindi • Kannada • French (reading competence) • German (intermediate; reads and understands academic German)