

Riya Shet

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Summary

Health data scientist completing an MSc at the University of Birmingham, building and evaluating machine-learning systems for healthcare on multimodal data: multi-omics, medical imaging, and clinical records. My focus is what decides whether a model is actually used in care, namely explainability, model auditing, and a clear path through clinical sign-off and regulation. Currently finishing a dissertation on deep-learning brain-tumour segmentation.

Education

MSc Health Data Science, University of Birmingham	2025 – Present
Dissertation: deep-learning brain-tumour segmentation (Dr. Le Zhang)	Dubai, UAE
BSc (Hons) Psychology, CHRIST (Deemed to be University)	2019 – 2022
First Class (3.55/4.0); coursework in AI, neural networks, and bioinformatics	Bengaluru, India

Selected Projects

Multimodal Integration for Colorectal Cancer github.com/riyashet-hds/crc-multimodal-integration
Reproducible multi-omics pipeline fusing metabolomics, biochemistry, and diet to classify colorectal cancer, comparing intermediate and late fusion.

Methods: DIABLO, regularised CCA, Random Forests, stacked logistic regression, SHAP *Tools:* Python, R (mixOmics)

Diabetic Retinopathy Algorithmic Audit github.com/riyashet-hds/dr-algorithmic-audit

Safety audit of a diabetic-retinopathy classifier using the Medical Algorithmic Audit framework, surfacing failure modes that headline accuracy hides.

Methods: subgroup testing, adversarial robustness, FMEA risk scoring *Tools:* Python

TracHeal: Post-Discharge Care-Continuity CDS github.com/riyashet-hds/trachealhackathon

Harvard HSIL Hackathon 2026 concept that flags post-discharge follow-up gaps from discharge notes, with a live RAG demo.

Role: product framing, backend and Vercel deployment convergence, DHA pilot plan and business model

Health-Economic Simulation of AI Triage github.com/riyashet-hds/health-economic-simulation

Monte Carlo framework estimating whether an AI triage tool is worth funding, running synthetic cohorts through two care pathways.

Methods: Monte Carlo, Bayesian updating, ICER and QALYs, sensitivity analysis *Tools:* Python, NumPy, SciPy

Professional Experience

Research Associate, SyNC Positive Psychiatry Foundation Apr – Jul 2025
Bengaluru, India

- Designed an official service-integration proposal for a mental-health R&D pilot, mapping care flow across providers and institutions.
- Built a KPI-based investment case translating clinic operations into measurable service-efficiency targets.

Earlier clinical roles: Clinical Psychology Intern, DIMHANS (2023) and Psychiatry Mentorship, SyNC (2023): multidisciplinary case history, psychometric assessment, documentation, ward rounds, and adult-ADHD psychoeducation.

Technical Skills

Programming: Python (pandas, scikit-learn, PyTorch, SHAP, matplotlib), R (mixOmics, tidyverse)

Machine learning: classification, model stacking and fusion, transfer learning, explainability and model auditing (SHAP, surrogate models)

Quantitative methods: Monte Carlo simulation, Bayesian updating, cost-effectiveness and decision analysis, risk scoring, sensitivity analysis

Health & multi-omics data: multi-omics integration (DIABLO, rCCA), EHR and claims data, pharmacogenomics, medical imaging, data governance (PDPL, ADHICS, SaMD)

Tools & languages: Git/GitHub, Jupyter, RStudio, BioRender | English (IELTS 8.0), Hindi, Arabic (conversational)