

Vikhram S

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 Google Scholar

 ORCID

 Hugging Face

Research Profile

- AI/ML research engineer specializing in vision-language models, explainable AI, and retrieval-augmented generation, with a peer-reviewed, Scopus-indexed first-author publication (Springer *LNNS*, ICICC 2026 – top 15% of reviewed submissions) and a nationally recognized applied-AI initiative co-published with UN Women and India's Ministry of Electronics and Information Technology. Builds interpretable multimodal systems for high-stakes domains – healthcare, law, and public safety – combining vision transformers, small/large language models, and structured reasoning, and maintains open-source NLP infrastructure exceeding 33,000 PyPI downloads. Seeking research-oriented **Machine Learning Engineer**, **AI Research Scientist**, and **Applied Scientist** roles, as well as **research-focused graduate study (MS/PhD)** in multimodal and explainable AI.

Education

2022 – 2026

- B.E., Electronics and Communication Engineering**, Saveetha Engineering College, India.
CGPA: 8.10/10.0. Coursework: Machine Learning, Deep Learning, Digital Signal Processing, Computer Vision, Natural Language Processing, Probability and Statistics, Data Structures and Algorithms.
Culminated in a peer-reviewed first-author publication (Springer *LNNS*, ICICC 2026) and an internationally recognized applied-AI project developed with UN Women and India's MeitY, both completed prior to graduation.

Research & Industry Experience

2025 – Present

- Team Lead & Corresponding Author**, Undergraduate AI Research Project, Dept. of Electronics and Communication Engineering, Saveetha Engineering College, India.

- Directed a student research team through the complete applied-AI research lifecycle – problem formulation, model architecture, experimentation, and manuscript preparation – culminating in a first-author paper ranked in the top 15% of submissions at an international Springer-indexed conference.
- Engineered **ExplainableVLM-Rad**, a multimodal clinical decision-support system pairing Vision Transformers with BioGPT to generate structured, confidence-calibrated radiology reports with built-in interpretability.
- Investigated cross-modal architectures integrating perception, retrieval, and language reasoning for high-stakes, domain-specific decision-making systems.

Mar – May 2026

- AI Engineering Intern (Agentic AI Track)**, Jatayu Hackathon 2026, Virtusa Consulting Services Pvt Ltd, India.

- Architected and shipped **CodePerfect Auditor**, a healthcare revenue-integrity platform that automatically reconciles clinical documentation against billed ICD-10/CPT codes, surfacing every discrepancy through a traceable, evidence-linked audit graph.
- Engineered a clinical NLP extraction pipeline and a configurable rules engine for automated code-mapping and discrepancy detection with quantified revenue-impact scoring.
- Delivered a production-grade full-stack system (FastAPI backend, Streamlit interface) from concept to working demo within a competitive hackathon timeline, selected among the top agentic-AI submissions.

2025 – Present

- Advisor, Tech Society**, Saveetha Engineering College, India.

- Appointed by Mr. C. Obed Otto, Dean – ICT, to provide technical leadership within Tech Society, a peer-led community for collaborative learning, innovation, and skill development across technology domains.
- Architected and delivered 4+ advanced technical curricula spanning AI Agents, Quantum Machine Learning, Financial ML, and open-source AI tooling, upskilling 100+ student researchers on deployment-oriented ML workflows.

Research Publications

Book Chapters

- 1 **S. Vikhram** and J. J. Gracewell, “NariRaksha: Gender-Responsive AI for Women’s Safety,” in *India AI Impact Summit 2026 Compendium – Real-World Impact of AI and Gender Empowerment: Casebook on AI and Gender Empowerment*, 1 of 23 case studies selected globally from 235+ submissions across 50+ countries, Ministry of Electronics et al., Feb. 2026, pp. 68–70.

Conference Proceedings

- 1 J. J. Gracewell, J. Yuvaraj, and **S. Vikhram**, “Explainable SLM-guided vision–language model for multi-class skin lesion recognition,” in *Proceedings of the International Conference on Innovative Computing and Communication (ICICC 2026)*, A. E. Hassanien, S. Anand, A. Jaiswal, and P. Kumar, Eds., ser. Lecture Notes in Networks and Systems, Scopus, DBLP, zbMATH, and EI Compendex indexed; ranked in the top 15% of reviewed submissions, Cham: Springer Nature Switzerland, 2026, pp. 611–622, ISBN: 978-3-032-30310-3.  DOI: 10.1007/978-3-032-30310-3_49.

Manuscripts in Preparation

- 1 **S. Vikhram**, J. J. Gracewell, and J. Yuvaraj, “Explainable vision-language generative models for radiology report image synthesis and interpretation,” Manuscript in preparation, 2026.

Selected Research Projects & Open-Source Contributions

- 2025 – Present  **ExplainableVLM-Rad.** Engineered a ViT + BioGPT vision-language pipeline (0.4B parameters) for interpretable radiology report generation with attention-based explainability and confidence-calibrated predictions. Released as a public model checkpoint on Hugging Face.
- 2025  **IndianConstitution & IndicConBench.** Engineered and released an open-source legal NLP package for semantic search over India’s constitutional text, surpassing 33,000 cumulative PyPI downloads; extended it into IndicConBench, a bilingual (English/Hindi) benchmark of 8,400+ examples spanning QA, retrieval, reasoning, and classification tasks.
- 2025 – Present  **NariRaksha-3B.** Extended the published NariRaksha framework into an open research artifact: a QLoRA fine-tune of Qwen2.5-3B-Instruct on a purpose-built 100K-row dataset of Indian women’s-safety scenarios spanning risk classification, structured reasoning, and applicable legal context. Released with full training methodology and transparently documented evaluation gaps as a reproducible baseline for follow-on research.
-  **Multimodal Scientific Reasoning Systems.** Investigates how perception, language models, retrieval systems, and structured reasoning can be integrated into domain-specific AI systems capable of supporting scientific and high-stakes decision-making.

Invited Talks & Lectures

- 2026  **Software Engineering Practices for Reproducible Deep Learning Systems.** Dept. of Computer Science and Engineering, Saveetha Engineering College.
-  **Cyber Law and Compliance Series: Security, Contracts, and Intellectual Property in the Digital Era.** Dept. of Computer Science and Engineering (Cyber Security), Saveetha Engineering College.
- May 2025  **Financial Machine Learning: Macroeconomic Indicators, Forecasting, and Predictive Analytics.** Dept. of Artificial Intelligence and Machine Learning, Saveetha Engineering College.
-  **Quantum Machine Learning: Emerging Directions in Hybrid Quantum–Classical AI.** Dept. of Artificial Intelligence and Machine Learning, Saveetha Engineering College.
- 2024  **AI Agents and Open Source Ecosystems for Intelligent Software Development.** Dept. of Artificial Intelligence and Data Science, Saveetha Engineering College.

Global Research & Policy Engagement

- 2026  Individually recognized by senior UN Women leadership at the official India AI Impact Summit 2026 compendium launch for contributions to gender-responsive, public-interest AI.

Global Research & Policy Engagement (continued)

- Engaged directly with senior AI industry, research, and policy leadership, including: Calista Redmond (VP, Global AI Initiatives, NVIDIA); Pradeep Gupta (VP, Solutions Architecture, NVIDIA); John Fanelli (VP, Enterprise Software, NVIDIA); Dr. Jacki O'Neill (Director, Microsoft Research Africa); Dr. Aisha Walcott-Bryant (Head of Research, Google Africa); Christine Arab (Regional Director, UN Women Asia Pacific); Prof. Vukosi Marivate (Professor of Computer Science, University of Pretoria); and Adarsh Kumar (World Bank).

Technical Skills

Languages	Python, SQL, JavaScript, C++.
ML/DL Frameworks	PyTorch, TensorFlow, Hugging Face Transformers, Scikit-learn, OpenCV, Unsloth.
AI Specializations	Vision-Language Models (VLMs), Vision Transformers (ViT), Large/Small Language Models (LLMs/SLMs), Retrieval-Augmented Generation (RAG), Explainable AI (XAI), QLoRA Fine-Tuning, Prompt Engineering.
Domains	Multimodal Learning, Medical Imaging AI, Clinical NLP, Legal NLP, Computer Vision, Model Evaluation & Interpretability.
Backend / MLOps	FastAPI, Streamlit, REST API Design, Git/GitHub, Docker, Model Deployment, Hugging Face Hub, PyPI Publishing.

Honors, Awards & Certifications

Honors and Awards

- 2026 **Published Contributor, India AI Impact Summit 2026 (MeitY and UN Women).** Lead author of a case study selected among 23 from 235+ global submissions across 50+ countries (see *Global Research & Policy Engagement* below).
- Springer LNNS Publication Recognition, ICICC 2026.** First-author paper flagged in the official acceptance notification as among the top 15% of all papers reviewed.
- 2025 **Invited Advisor, Machine Learning Tech Society.** Appointed by the Dean – ICT, Saveetha Engineering College, for academic and technical leadership.

Certifications

- 2026 **Deep Learning Specialization,** DeepLearning.AI (Andrew Ng). Neural Networks, CNNs, RNNs, Sequence Models, Hyperparameter Tuning.
- 2025 **Google Cybersecurity Specialization,** Google. Credential ID: 3VZ635P8BB58.
- Dynamic Public Speaking,** University of Washington (Coursera). Credential ID: UHK2Jo67KIKI.

References

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Dr. Srigitha S. Nath, M.E., Ph.D.

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