SUDARSHAN ANAND

AI/ML Researcher, Data Scientist

Atlanta, GA (willing to relocate)|asudarshan14@gmail.com|+1 (404) 453 5664|linkedin.com/in/sanand315/|**F1 OPT (2026-29)**

EDUCATION

Georgia Institute of Technology Atlanta, GA, United States
MS Computational Science and Engineering ***(CGPA: 4.0/4.0)*** Aug 2024 – May 2026
Relevant Coursework: Data Science for Epidemiology, Machine Learning for Graphs, Industrial Math, Numerical Linear Algebra

Birla Institute of Technology and Science (BITS Pilani) Pilani, Rajasthan, India
MSc. Mathematics and B.E. Computer Science ***(CGPA: 9.4/10)*** Aug 2019 – Aug 2024

PROFESSIONAL EXPERIENCE

AI Product Development Intern Jun 2025 – Aug 2025
Rezolve.ai Dublin, CA, USA [Remote]

- Engineered an enterprise **Retrieval-Augmented Generation (RAG)** search MVP using **FastAPI, Pinecone, and PostgreSQL**, integrating conversational memory to slash policy retrieval to **<20-second latency** and drive strategic interest from tier-one tech firms.
- Optimized platform UI/UX for employee onboarding by developing a **prefix-tree look-ahead search** for instant autocomplete suggestions, automating global trend pipeline updates via **GCP Cloud Run**.
- Architected an **Agentic AI ChatOps system** (Slack/Teams) to automate the IT incident response lifecycle, streamlining **alert triaging** and **dynamic runbook generation**, attracting pilot interest from leading **ITSM providers**.

AI Scientist Intern Jan 2024 – Jun 2024
Qure.ai Technologies Pvt. Ltd. Bangalore, Karnataka, India

- Optimized a **computer vision lung nodule detection** product, boosting AI-to-radiologist correlation by **~45%** to ensure strict clinical reliability for early cancer diagnosis.
- Benchmarked image registration speed for lung nodule tracking in consecutive scans

PROJECTS

DRiP: White-box framework for Depression Risk Prediction Oct 2025
IEEE-EMBS International Conference on Biomedical Health Informatics (BHI) 2025 Atlanta, GA, United States

- **Engineered an interpretable, white-box predictive framework** to forecast longitudinal depression risk trajectories, prioritizing model transparency, safety, and alignment with strict clinical constraints.
- **Isolated age-stratified risk factors** from complex clinical data, providing empirical validation that targeted interventions successfully mitigate long-term patient risk.
- **Awarded 1st Place at the IEEE-EMBS BHI 2025 Data Challenge** for deriving robust, actionable clinical insights from a highly constrained tabular dataset (n = 200), demonstrating exceptional sample-efficient learning. Team VYSSION BHI'25 Presentation

Multimodal Progression Tracking of Neurodegenerative disorders Aug 2025 – present
Georgia Institute of Technology Atlanta, GA, USA

- Architecting a multimodal **Concept Bottleneck Model (CBM)** to track Parkinson's progression, fine-tuning foundational models on **3,000+ 3D MRI scans** via **mixed-precision training** to guarantee highly **interpretable** and **steerable** outputs.
- Scaling **distributed PyTorch pipelines** across **HPC environments using SLURM**, to process massive longitudinal patient cohorts, significantly reducing processing and model training times for complex temporal datasets.

Investigating importance of Patient Metadata in Public Health May 2025 – present
Edith Cowan University Western Australia, Australia

- **Spearheading a cross-functional study as the sole technical lead,** engineering end-to-end Python pipelines (pandas) to **extract signal from 1.2M unstructured patient records** while collaborating with subject-matter experts to translate clinical domain knowledge into quantitative logic.
- **Independently drove the statistical analysis and visualization of high-dimensional datasets (Seaborn, Plotly),** uncovering a **critical 94% data sparsity rate** that redefined the project's scope and heavily influenced downstream modeling assumptions.
- **Prototyped and optimized GenAI entity-extraction pipelines using the Hugging Face API;** evaluated Gemma-2 via zero-shot and Supervised Fine-Tuning (SFT) to establish a baseline that quantified the impact of degraded metadata on LLM performance.
- Presented findings at the IEEE-EMBS BHI 2025 conference (abstract).

Samay: Time-series Foundational Models Library Jan 2025 – May 2025
Georgia Institute of Technology Atlanta, GA, USA

- **Developed Samay, an open-source Python library** unifying 10 state-of-the-art foundational models, developing robust ML inference pipelines for time-series forecasting, classification, and anomaly detection.

- **Implemented zero-shot and custom model fine-tuning workflows in PyTorch 2.0+**, enabling the seamless adaptation of pre-trained architectures to specialized tasks and diverse data formats.
- **Conducted rigorous quantitative evaluations** against the **GiftEval benchmark**, validating the scalability and performance of all 10 integrated models against established industry standards.

PUBLICATIONS

- **Conference**
  - **S. Anand**, M. Lee, and S. S. Vasan, 'Metadata makes Big Data useful for AI/ML-ready,equitable pandemic response', in IEEE-EMBS International Conference on Biomedical and Health Informatics 2025 1-Page Abstracts, 2025. (poster presentation)
  - **S. Anand**, M. Lee, and S. S. Vasan, 'Why de-identified patient meta-data matters during pandemics', in Scotland's Health Research and Innovation Conference 2025. (poster presentation)
  - H. Kamarthi, S. Li, **S. Anand**, S. Das, A. Ramesvaran, A. Bhalerao and B.A. Prakash, "Samay: A Unified Pipeline Framework for Time-Series Foundation Models**"** – submitted to VLDB 2026 Demo track
- **Journal articles**
  - S. S. Vasan, **S. Anand**, M. Lee, and N. C. Fluck,"On Burden of Diseases, Prevention, Medical Research and Health Service Delivery: Grampian Case Study" – submitted to International Journal of Environmental Research and Public Health (2026)
  - Shiksha, **Anand, S.**, Shekhawat, K., & Agrawal, K. (2025). Automated generation of circulations within a floorplan. *Artificial Intelligence for Engineering Design, Analysis and Manufacturing*, *39*, e9. doi:10.1017/S0890060425000022
  - Anshu, Balram Dubey, Sourav Kumar Sasmal, **Anand Sudarshan**; Consequences of fear effect and prey refuge on the Turing patterns in a delayed predator–prey system. Chaos 1 December 2022; 32 (12): 123132. https://doi.org/10.1063/5.0126782

HONORS & AWARDS

IEEE BHI 2025 Data Challenge Competition Champion Oct 2025

- Led the study design and development of **AI/ML-driven depression risk prediction**, winning the IEEE-sponsored competition (backed by NSF & Google).

IEEE BHI 2025 Young Professional NextGen Scholar (NSF, EMBS, Google Sponsored) Sep 2025

- Awarded prestigious NSF/Google-sponsored scholarship for high-impact Biomedical AI research, including an invitation to present at the IEEE BHI 2025 conference

LEADERSHIP ROLES

Graduate Teaching Assistant Aug 2025 – present

Georgia Institute of Technology (CSE Algorithms (Aug-Dec '25); Numerical Linear Algebra (Jan '26-present)) Atlanta, GA, USA

- Facilitate effective communication between professor and 180 students by resolving logistical queries promptly
- Foster conceptual mastery by breaking down complex topics, and providing actionable feedback on assignments

Project Lead Aug 2025 – present

Georgia Institute of Technology Atlanta, GA, USA

- **Spearheading a 10-person research team** in the development of a Responsible AI framework for chest X-ray classification, guiding research methodology and weekly milestones.
- **Evaluating uncertainty quantification techniques** to enhance the transparency and **clinical relevance of chronic lung ailment diagnoses.**

REFERENCES

- **Prof. B. Aditya Prakash**
  Associate Chair for Academic Affairs - CSE, Professor of Computing, Georgia Institute of Technology
  Email: badityap@cc.gatech.edu
- **Prof. May D. Wang**
  Professor of BME, ECE, and CSE
  The Wallace H. Coulter Distinguished Faculty Fellow
  Director of Biomedical Big Data Initiative and Georgia Distinguished Cancer Scholar, Petit Institute Faculty Fellow, Kavli Fellow, AIMBE Fellow, IAMBE Fellow, IEEE Fellow Board of Directors of American Board of AI in Medicine,
  Georgia Institute of Technology and Emory University
  Email: maywang@gatech.edu
- **Dr. Reza Zandehshahvar**
  Research Engineer II
  Artificial Intelligence Institute for Advances in Optimization (AI4OPT)
  H. Milton Stewart School of Industrial and Systems Engineering
  Georgia Institute of Technology
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