Anand Thakkar

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Education

SRM Institute of Science and Technology, Kattankulathur **Chennai, India**
Bachelor of Technology in Computer Science Engineering *August 2021 - August 2025*
CGPA: 7.49/10 (Till 7th Semester)

Technical Skills

- **Programming Languages:** Python, JavaScript, C++, C.
- **Machine Learning/AI:** PyTorch, Scikit-learn, OpenCV, Deep Learning, Computer Vision.
- **Web Development:** HTML5, CSS3, D3.js
- **Data Analysis:** Pandas, NumPy, Matplotlib.
- **Tools:** Git, GitHub, LaTeX.

Experience

R&D Intern, SPAN Inspection Systems Pvt Ltd *(Dec 2024 – Present)*
R&D Department — Medical Image Analysis, Deep Learning

- Developing a deep learning pipeline using Segment Anything Model (SAM/SAM2) for coronary artery segmentation
- Achieved 81%+ accuracy with SAM2_tiny model, significantly outperforming previous approaches
- Re-annotated dataset and retrained models to improve segmentation accuracy
- Collaborating with R&D team to document and present research findings

Projects

AI Startups & Investors Network Visualization ***Live Demo***

- Created an interactive network visualization of AI startup-investor relationships using D3.js
- Implemented timeline animation showing the evolution of AI investment landscape
- Built interactive filtering and zooming controls for detailed information access

Tech Stack: JavaScript, D3.js v7, HTML5, CSS3

Leaf Disease Detection using Fine-Tuned SAM2_tiny ***GitHub***

- Fine-tuned SAM2_tiny for automatic segmentation of diseased leaf regions
- Built a deep learning pipeline improving segmentation accuracy across plant species
- Optimized model for real-time disease detection in precision agriculture

Tech Stack: Python, PyTorch, OpenCV, Pandas, NumPy

Credit Card Approval Prediction ***GitHub***

- Engineered a stacked ensemble model combining multiple algorithms for credit approval predictions
- Applied feature engineering techniques to optimize model performance
- Evaluated model using ROC-AUC, precision-recall curves, and confusion matrices

Tech Stack: Python, Scikit-learn, Pandas, NumPy, Matplotlib

Research Projects

ResFormerAF: Deep Learning for Atrial Fibrillation Detection *(Under Review)*

- Compared ResNet, ResNet with attention, Bi-LSTM, and Bi-LSTM with attention for ECG classification
- Proposed a novel ResNet + encoder-based architecture for improved feature extraction

Deep Learning for Coronary Artery Stenosis Detection *(In Progress)*

- Developing a system for coronary artery segmentation and stenosis detection in medical images
- Leveraging state-of-the-art models to improve diagnostic accuracy for CAD

Cross-lingual Semantic Equivalence in LLMs *(In Progress)*

- Investigating how LLMs process semantically equivalent prompts in multilingual contexts
- Evaluating semantic understanding across different linguistic inputs (e.g., Hinglish)

Certifications

- **Machine Learning Specialization** - Coursera (Stanford and DeepLearning.AI) **Certificate Link**
- **Python and Introduction to Programming** - Kaggle **Intro to Programming** & **Python**
- **How Transformer LLMs Work!** - DeepLearning.AI **Certificate Link**
- **Deep Learning Specialization** - Coursera (In Progress)

Relevant Coursework

- **Core CS:** Data Structures and Algorithms, Operating Systems, Computer Networks, Database Management Systems
- **AI/ML:** Artificial Intelligence, Data Mining and Analytics, Pattern Recognition Techniques
- **Mathematics:** Calculus and Linear Algebra, Probability and Queueing Theory, Discrete Mathematics
- **Computing:** GPU Programming, Distributed Operating Systems