

Janenie Janakiraman

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Chennai, Tamil Nadu - 600023, India

OVERVIEW

Enthusiastic about using data analysis, computer vision, and machine learning to create meaningful solutions for the real world. Using my technical experience and creative problem-solving skills, I am committed to expanding AI technology with an emphasis on multimodal data integration and healthcare applications. I'm always looking for ways as a student to learn, grow, and be a part of innovative projects that tackle difficult problems.

EXPERIENCE

- Summer Research Intern [O]** June 2024 – August 2024
Machine Learning Engineer Pittsburgh, Pennsylvania, USA
 - Heart disease diagnosis using integrated echocardiographic, MRI and ECG data
 - CNNs and fusion techniques were used to combine insights from different modalities.
 - Includes data cleaning, feature extraction, model training, and validation.
- Research on Lightweight CNN for Diabetic Retinopathy Detection [O]** May 2023 - July 2024
Machine Learning Engineer Chennai, India
 - Explored various CNN architectures (DenseNet, MobileNet, ResNet, Xception, Inception) for diabetic retinopathy detection.
 - Employed knowledge distillation to create a lighter student model mentored by DenseNet and others.
 - Achieved 68.77% validation accuracy on a diverse Kaggle dataset, focusing on practical deployment in medical devices.
 - Presented the paper on the above work at ICOECA 2024.

EDUCATION

- SRM Institute of Science and Technology** September 2021 - June 2025
BTech, Computer Science Engineering Chennai, India
 - CGPA: 9.15/10.00
- Chennai Public School** June, 2021
Higher Secondary Education Chennai, India
 - Grade: 93.2%
- SBOA School and Jr. College** May, 2019
Secondary Education Chennai, India
 - Grade: 96.2%

PROJECTS

- Project A: [Synthetic Medical Image Generation for Data Augmentation]** June 2024 - August 2024
Tools: [Python, Generative Adversarial Networks (GANs), PyTorch, Pandas, Scikit-learn, Matplotlib.] [O]
 - Objective: Develop a generative model to create synthetic medical images (e.g., X-rays, MRIs, CT scans) that can be used to augment limited datasets.
 - Impact: Enhance the training of AI models by providing diverse and realistic training data, improving model accuracy, particularly for rare conditions.
- Project B: [Campus Aide]** March 2024
Tools: [HTML, CSS, JavaScript, Firebase, Ionic, TypeScript, Geolocation API] [O]
 - Developed an inclusive safety and accessibility application, achieving real-time emergency reporting and vehicle monitoring.
 - Implemented real-time safety alerts, processing large volumes of data from campus sensors and user reports.
 - Created interactive visualizations for tracking vehicle movements and optimizing shuttle operations, enhancing transportation efficiency.
 - Developed a community engagement module for easy integration with existing campus systems, encouraging user feedback on accessibility and safety.
- Project C: [Machine Learning Data Analysis for HeatSink Design]** October 2023
Tools: [Ansys Icepak]
 - Fine-tuned heatsink designs through GANs in collaboration with Intel Lab at SRM IST.
 - Research innovations in thermal management for data centers and edge computing systems.
 - Utilizing machine learning to optimize cooling efficiency and energy efficiency.

[C.1] B. Baranidharan, Janenie J. and Hardik Chhipa, "[Light Weight CNN Based on Knowledge Distillation for Diabetic Retinopathy Detection](#)," **2024 International Conference on Expert Clouds and Applications (ICOECA)**, Bengaluru, India, 2024, pp. 860-864, doi: 10.1109/ICOECA62351.2024.00151. keywords: Knowledge engineering;Diabetic retinopathy;Analytical models;Accuracy;Medical devices;Manuals;Blindness;Diabetic Retinopathy;Convolutional Neural Networks;Knowledge Distillation;Teacher Student model,

[A.1] Janenie J., Hardik Chhipa, Manas Singhal, and B. K. Gnanavel. "[Innovations in Thermal Management for Data Centers and Edge Computing](#)." **Paper accepted at the ASME 2024 18th International Conference on Energy Sustainability (ES2024)**, Anaheim, California, July 15-17, 2024. ES2024-141129.

SKILLS

- **Programming Languages:** Python, C, C++, Java, JavaScript
- **Web Technologies:** HTML, CSS, JavaScript, Firebase, Git, Github
- **Database Systems:** MySQL, Oracel
- **Data Science & Machine Learning:** Tensorflow, Pytorch, Numpy, Pandas, Scikit learn, Keras, Matplotlib, Plotly, Seaborn, OpenCV, nltk, Transformers Hugging Face
- **Specialized Area:** Machine Learning, Deep Learning, Natural language processing, Computer Vision
- **Other Tools & Technologies:** Electronic Thermal Management: Ansys Icepak, Microsoft Power BI, Mermaid, Docker, Linux
- **Research Skills:** Research Design, Methodology, Scientific Writing, Communication and Architecture design

HONORS AND AWARDS

3rd place - March 2024
Philips Ideathon
Summer Internship Offer

LEADERSHIP EXPERIENCE

- **President – Technical Writing** January 2023 - March 2023
SRM IET On Campus, Chennai
- **Vice - Technical Head** March 2023 - July 2024
SRM IET On Campus, Chennai

CERTIFICATIONS

- **Machine Learning for Engineering and Science Applications - NPTEL** April 2024
- **Python for Computer Vision with OpenCV & Deep Learning - Udemy** November 2023
- **Network Addressing and Basic Troubleshooting** November 2023
- **Introduction to Machine learning - NPTEL** September 2023
- **Python for Data Science IIT Kharagpur - NPTEL** August 2023
- **Networking Basics - CISCO** April 2023
- **AWS Academy graduate - AWS Machine Learning foundations** March 2023

ADDITIONAL INFORMATION

Languages:

- I. English (Full Professional Proficiency)
- II. Hindi (Native Proficiency)
- III. Tamil (Native Proficiency)
- IV. Telugu (Native Proficiency)
- V. Japanese (Elementary Proficiency)

Interests: Reading, Blogging, Music(Classical Violin)