Varshini Elangovan

412-641-9474 | varshini.elangovan10@gmail.com | linkedin.com/in/varshini-elango | github.com/Varshini-E| Portfolio

EDUCATION

Carnegie Mellon University (CMU) **Expected: December 2026**
Master of Science in Machine Learning Pittsburgh, PA

Anna University, College of Engineering, Guindy **June 2022**
Bachelor of Engineering (Honors) in Computer Science and Engineering Chennai, India

WORK EXPERIENCE

Google Hyderabad, India
Software Engineer July 2022 – July 2025

- Primary contributor to the design of the risk strategy for Google Wallet via PIX in Brazil launched in August 2024. Developed risk mitigation solutions to reduce transaction losses across peer-to-peer payment flows.
- Designed and deployed feature engineering pipelines in Java and rule-based decision policies in Python, integrating ML model outputs for real-time transaction risk assessment at scale.
- Implemented risk capabilities compliant with regulatory requirements including real-time monitoring dashboards and operational runbooks. Collaborated with Trust & Safety and Product teams on metrics, thresholds and customer impact post launch.
- Engineered ML pipelines for delinquency fraud detection on Stored Value transactions, performing data simulation, GBDT model training in TensorFlow and offline evaluation against baselines.
- Promoted from SWE II to SWE III (November 2024) for high-impact contributions to Global Payments Platform Risk systems.

Goldman Sachs Remote (Bengaluru, India)
Summer Analyst June 2021 – July 2021

- Created a Python-based data curation and analysis tool that converts JSON inputs into multiple outputs for GS proprietary systems. Integrated the same into ETL workflows, optimizing a 2-week process to under one minute.

RESEARCH EXPERIENCE

Human Sensing Lab, Carnegie Mellon University Pittsburgh, PA
Graduate Student Researcher October 2025 - Present

- Researching 3D Spatial Understanding with 2D Vision-Language models under Prof. Fernando De la Torre in a collaboration project with Meta Reality Labs. Developing pipelines to integrate spatial priors into 2D VLM inputs for scene understanding and visual question answering.

Indian Institute of Technology (IIT), Kharagpur Remote (Kharagpur, India)
Deep Learning Intern May 2022 – September 2022

- Trained and evaluated semantic segmentation models in PyTorch for depth estimation from simulated colonoscopy images as part of the KLIV group, assessing various loss functions and effective post-processing techniques. Presented at the MICCAI 2022 Endoscopic Vision Challenge.
- **Publication: SimCol3D - 3D reconstruction during colonoscopy challenge**, A. Rau, S. Bano, Y. Jin, Varshini Elangovan, et al., Medical Image Analysis, 2024. doi: 10.1016/j.media.2024.103195

PROJECTS

Watch & Learn: Teacher-Student Distillation for Robotic Arm Tasks (GitHub) November 2025 – December 2025

- Developed a vision-only student agent from the distillation of a full-state teacher policy for camera-based robotic manipulation on MetaWorld tasks. Achieved 90% of full-state teacher performance via teacher-guided RL with imitation learning.

Environmental ML: Modelling Sequential Disaster Cascades January 2026 – Present

- Implementing an end-to-end ML pipeline on 15 years of NOAA Storm data for multi-hazard disaster chain prediction using MLPs with weather embeddings and GNN architectures with physics-informed features for rare event detection.

Adaptive Day Planner: LLM-Based Task Scheduling and Voice Agent (GitHub) February 2026

- Built an AI-powered adaptive planner using Mistral LLMs, FastAPI and Eleven Labs speech APIs to dynamically schedule tasks, replan sessions based on user feedback and support focus sessions via conversational body doubling. (Mistral AI Worldwide Hackathon, SF)

SKILLS

- **Languages:** Python, Java, C/C++, SQL, JavaScript
- **Frameworks/Libraries:** PyTorch, TensorFlow, Keras, Hugging Face, OpenCV, OpenAI Gymnasium
- **Developer Tools:** Git, Docker