Kavinkarthik Ashok Kumar

kavinkarthik.a@asu.edu | (602) 802-7790 | linkedin.com/in/kavinkarthik-ashok-kumar/

EDUCATION

Arizona State University, Tempe
Master of Science Candidate (Computer Science) *Expected May 2026*
- Coursework: Planning and Learning Methods in AI, Fundamentals of Statistical Machine Learning, Software Security.

Vellore Institute of Technology, Vellore
Bachelor of Technology (Computer Science and Engineering with specialization in AI & ML) *May 2024*
- Coursework: Machine Learning, Reinforcement Learning, Computer Vision in Healthcare applications.

SKILLS & INTERESTS

Skills: Python, C++, Java | Machine Learning | SQL | TensorFlow | OpenCV

Interests: Natural Language Processing, Logical Reasoning, CTFs, Soccer, Trekking

WORK EXPERIENCE

Atoma Technology
Software development Intern *June 2022 – July 2022*
- Developed generative model for synthetic data, decreasing Robotic Process Automation testing cycle time by 16% and ensuring privacy with 0.59 membership inference score, was presented to senior management as intern project.

ACADEMIC PROJECTS

LLM-SLM Framework for reasoning task *September 2024 – December 2024*
Arizona State University
- Developed and fine-tuned a Smaller Language Model (SLM) as a verifier to evaluate planning tasks, improving verification accuracy by 3.26% over LLM self-verification and reducing false positive rates to 0.44%.
- Designed an iterative LLM-SLM pipeline where an LLM generates candidate plans, and the SLM critiques and refines them, leading to a more structured and resource-efficient approach to planning verification.

EEG Motor-imagery classification *October 2023 – May 2024*
Vellore Institute of Technology
- Reviewed 20+ papers on EEG and ECG processing for classification, identifying challenges and implementing improvements to enhance performance.
- Transformed EEG signals into Recurrence Plots and Gramian Angular Field Plots, and designed deep neural network for analysis, achieveing 4.38% increase in accuracy.
- Applied Recurrence Quantification Analysis to extract features from EEG signals for motor action classification, reducing processing time by 17% with minimal accuracy compromise.

Breast Cancer detection *January 2023 – May 2023*
Vellore Institute of Technology
- Adopted ResNet-based feature extractor for mammogram classification using RSNA dataset.
- Deployed modified XGBoost model using extracted features and context from case history, resulting in 1.8% reduction in false-positive rates and presented improvements as part of coursework.

VOLUNTEERING

Rotaract Club VITC
Technical Team Head *August 2022 – May 2024*
- Overseeing and assisting with seminars, workshops, and community activities, including health camps and beach cleanups, increasing club membership by 20%.
- Arranged 5+ fundraisers, creating events, and maintained expenses relative to development budget of $850 quarterly.

TechnoVIT (Technical Fest – Vellore Institute of Technology)
Workshop Committee Lead *July 2022 – November 2022*
- Organized 40+ workshops for Annual Tech Fest, managing team of 30 and supporting fundraising.
- Collaborated with marketing, poster designing, venue management, refreshment committee for smooth completion of events.

CERTIFICATIONS

- AWS Certified Cloud Practitioner: Valid from May 20, 2022, till May 20, 2025.
- Completed Coursera certification course “Introduction to Data Science in Python” by University of Michigan, May 2021.