KARAN VASUDEVAMURTHY

https://karanlvm.github.io/portfolio | karanlvm123@gmail.com |+1 (817) 883-4473 | Open to relocation

Skills

- **Languages & Frameworks:** Java, Python, PHP, JavaScript, MySQL, HTML, CSS, Angular, Flask, Keras, TensorFlow, JUnit, OpenCV, MediaPipe, Dlib, LangChain, Vite, LiaScript
- **Web & Mobile Development:** Android App Development (Java), Firebase, React, Flask, Postman, Figma
- **Machine Learning & AI:** TensorFlow, Keras, HuggingFace, Transformers, Cosine Similarity, NLP Methods, WandB, Gemini API
- **Tools & Technologies:** Cisco Packet Tracer, Docker, Postman, WandB, Git, AWS

Certifications

- **Amazon Web Services-** AWS Certified Solutions Architect **(Ongoing)**
- **Meta-** Introduction to Android Mobile Application Development **(Jul 2024)** Certificate

Experience

Cybersecurity Lab Architect/ GTA — **University of Texas at Arlington** — **Aug 2024- Current**

- Instructed **50+ students per semester** in cybersecurity concepts, including encryption, Linux access management, setuid programs in C, and buffer overflow attacks, improving lab engagement and comprehension
- **Automated Linux scripts** that streamlined GTA workflows, reducing manual effort by **30%** and improving operational efficiency
- Orchestrated and hosted **Capture The Flag (CTF) competitions** and hands-on security exercises, improving students' practical understanding of real-world security threats
- Graded assignments and exams while providing **individualized support**, leading to **higher student performance and engagement** in information security coursework

Software Engineer – Computer Vision — **Visteon Corporation** — **Sept 2021 – Mar 2022**

- **Implemented an Android edge detection application** using OpenCV and MediaPipe, **reducing image processing latency by 40%** to enable real-time driver-assistance functionalities
- **Engineered and deployed facial detection and landmark recognition algorithms** for driver monitoring systems, **improving accuracy by 25%** and enhancing safety features in Mahindra vehicles
- **Collaborated on Alexa integration** for the Mahindra XUV700 infotainment system, enhancing in-car user experience for **150,000+ owners** and contributing to the vehicle's **45.89% market share in 2022**
- **Researched and integrated the first photometric alignment system** for the **360-degree surround-view system**, improving object visibility and alignment precision, contributing to Mahindra's dominance in the mid-size SUV segment (**77% market share**)

Projects

- **Sentiment Analysis of IMDB dataset:** Led a team of three to compare LSTMs, Bi-LSTMs, and transformer models like BERT, achieving 1-**10% higher accuracy** than reference papers by addressing overfitting through model modifications. GitHub Paper**(Dec 2024)**
- **Briefly:** Designed a news aggregation app for using Streamlit, fetching news via News API, summarizing in **under 60 seconds**, and integrating trust scores, sentiment analysis, and fact-checking. GitHub **(Oct 2024)**
- **Musiqi:** Developed a music player with Vite, Shazam API, and Firebase in a team project. GitHub **(May 2024)**
- **LocalGPT:** Created a local GPT implementation based on the private GPT repository, leveraging the Nous-Hermes-13B-GGML enabling offline access to large language model capabilities and **improving data privacy**. GitHub **(Dec 2023)**
- **Fake News Detection:** Core team member in a pioneering fake news detection project, **building India's first true news dataset** using transformers, embeddings, and cosine similarity for trust scoring on user tweets. GitHub **(May 2023)**
- **Skin Cancer Detection:** Led a team to develop a CNN-based skin cancer detection system, **improving accuracy by 18%** and deploying a user-friendly Android app for accessible diagnosis. GitHub **(Aug 2022)**

Education

- **Master of Science** — **University of Texas at Arlington** — **Expected Graduation: May 2025**
  Computer Science — *GPA: 3.82 / 4.0* — *Arlington, TX, US*
- **Bachelor of Engineering** — **Dayananda Sagar College of Engineering** — **Aug 2019 -Jul 2023**
  Computer Science and Engineering — *GPA: 3.4 / 4.0* — *Bangalore, India*

Publications

- Modi, K., Shreshth, S., **Karan V.**, Yadav, H., & Sarala, D. V. (2023). A Literature Survey on "Misinformation Flagging System". International Journal for Research in Applied Science & Engineering Technology (IJRASET), 11(1). https://doi.org/10.22214