

KARAN VASUDEVAMURTHY

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Skills

- **Languages:** Python, C++, JavaScript, SQL, HTML/CSS
- **Frameworks/Libraries:** React, GSAP, TailwindCSS, Vite, TensorFlow, OpenCV, MediaPipe
- **Cloud & Tools:** AWS, Docker, Firebase, Git, Postman, WandB, Cisco Packet Tracer

Experience

Cybersecurity Lab Instructor/ GTA	<u>University of Texas at Arlington</u>	Aug 2024- May 2025
<ul style="list-style-type: none">• Delivered hands-on lab sessions to 50+ students per semester on encryption, buffer overflows, access control, and keyloggers, while reconstructing lab systems with secure toolchains• Reduced TA manual effort by 30% by automating lab validation and setup processes using Bash and Python, allowing for faster grading and seamless lab execution across 8 course sections		

Software Engineer – Computer Vision (Intern)	<u>Visteon Corporation</u>	Sept 2021 – Mar 2022
<ul style="list-style-type: none">• Improved real-time driver assistance system accuracy by 25% by optimizing facial landmarking algorithms and reducing noise via MediaPipe filtering, validated using behavior test suites on Mahindra platforms• Reduced edge detection latency by 40% by shifting processing from cloud to on-device OpenCV inference on Android, enabling frame rates to meet real-time Driver Monitoring System threshold• Contributed to surround view photometric alignment and Alexa integration for Mahindra XUV700, helping it achieve 77% market share in the mid-size SUV segment, validated through internal UX studies and customer feedback		

Projects

ForgeOS: [GitHub]	Apr 2025- Current
<ul style="list-style-type: none">• Built a minimal operating system kernel from scratch using C++ and Assembly with GRUB and Multiboot, implementing interrupt handling, memory mapped I/O, and screen rendering	

The WAW Podcast Website: [Website]	Feb 2025- Mar 2025
<ul style="list-style-type: none">• Tripled podcast traffic within two weeks by designing an attractive, visually engaging site using Vite and GSAP, delivering a fast and seamless user experience• Enhanced site reliability and speed by deploying on Netlify with a custom domain, reducing load times and improving global accessibility; growth validated via Google Analytics tracking across 20+ countries	

LocalGPT: [GitHub]	Oct 2023- Feb 2024
<ul style="list-style-type: none">• Engineered a private chatbot by deploying Nous-Hermes-13B-GGML locally, ensuring privacy for sensitive conversations in academic and internal use cases• Demonstrated 100% independence from remote APIs, reducing cost and privacy risks	

Fake News Detection: [GitHub]	Jan 2023-Apr 2023
<ul style="list-style-type: none">• Improved false news detection F1 score by 12% over baseline models by pioneering India's first government-verified news dataset, created through web scraping the official Press Information Bureau site and leveraging BERT embeddings combined with cosine similarity to assess tweet reliability• Developed a Telegram chatbot capable of real-time sentiment analysis, political bias detection, and credibility scoring, demonstrating a practical application of NLP techniques to improve news trustworthiness. Deployment was limited due to API restrictions	

Certifications

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

Education

Master of Science Computer Science	<u>University of Texas at Arlington</u> GPA: 3.83 / 4.0	Aug 2023 -May 2025 Arlington, TX, US
Bachelor of Engineering Computer Science and Engineering	<u>Dayananda Sagar College of Engineering</u> GPA: 3.4 / 4.0	Aug 2019 -May 2023 Bangalore, India