

# ARAV ADIKESH RAMAKRISHNAN

+1 (413) 210-6592 | aravadikesh@gmail.com | linkedin.com/in/aravadikesh | github.com/aravadikesh | aravadikesh.vercel.app/

## EDUCATION

<b>University of Massachusetts - Amherst</b> <i>Master's, Computer Science</i> <ul style="list-style-type: none"><li>Bay State Scholar</li><li>Coursework : Machine Learning, Modern Neural Networks, Reinforcement Learning, Security &amp; Privacy in GenAI</li></ul>	<b>Sep 2024 - May 2026</b> GPA: 4
<b>University of Massachusetts - Amherst</b> <i>Bachelor's, Computer Science</i> <ul style="list-style-type: none"><li>Chancellor's Award, Dean's List</li><li>Coursework : Software Engineering (Typescript), Algorithms, Game Programming (C#), Operating Systems (C/C++), Database Management (SQL), Data Structures &amp; Algorithms, Intelligent Visual Computing, Search Engines</li></ul>	<b>May 2024</b> GPA: 3.93

## SKILLS

- Languages:** Python, TypeScript, JavaScript, Java, C#, C/C++, SQL
- Frameworks & Tools :** Pytorch, NumPy, Pandas, Express.js, Flask, Git, AWS, Kubernetes, MySQL, Postgres, OpenCV, Unity

## PROFESSIONAL EXPERIENCE

<b>Prime Focus Technologies</b> <i>AI/ML Intern</i> <ul style="list-style-type: none"><li>Led development of a production-ready conversational GenAI-driven image generation system with enterprise integration</li><li>Engineered distributed architecture with JavaScript frontend, SpringBoot microservices on Kubernetes, and Flask/Python APIs on AWS Lambda, integrated with PostgreSQL/Redis achieving 100ms response times and 99.9% uptime</li><li>Reduced image generation time by 40% and infrastructure costs by 35% through optimized processing, successfully demonstrating the solution at International Broadcasting Convention (IBC)</li><li>Designed and deployed a scalable Retrieval-Augmented Generation (RAG) chatbot leveraging LangChain, FAISS vector store, and fine-tuned HuggingFace models (RoBERTa, DeBERTa) to handle 1K+ daily customer queries</li><li>Achieved 92% customer satisfaction across 5 media clients, reducing annual support costs by \$20K and improving ticket resolution times by 44%.</li></ul>	<b>Los Angeles, CA, USA</b> <i>May 2024 - Sep 2024</i>
<b>UMass Rescue Lab</b> <i>Independent Researcher</i> <ul style="list-style-type: none"><li>Architected a production-grade deepfake detection system using PyTorch with parallel CNN ensembles (EfficientNet-B7 and XceptionNet), BlazeFace/MTCNN for face detection, and custom data augmentation techniques, achieving 96% accuracy on DeepFake TIMIT (10% higher than baseline) and processing 100+ videos/hour</li><li>Engineered a containerized MLOps pipeline with Flask RESTful APIs, RetinaFace for precise facial landmarks, and dlib for face alignment, reducing model deployment time by 65% and enabling automated batch processing of 1000+ videos/day for the RescueBox platform</li></ul>	<b>Amherst, MA, USA</b> <i>Aug 2024 - Dec 2024</i>
<b>UMass Amherst</b> <i>Undergraduate Course Assistant (UCA)</i> <ul style="list-style-type: none"><li>Instructed 100+ students in JavaScript, OpenGL, and foundational computer graphics concepts, through engaging lectures and hands-on projects.</li><li>Conducted 5+ weekly office hours, assisting 50+ students with clarifying doubts and troubleshooting code, while providing supplementary resources to enhance learning outcomes.</li><li>Graded 200+ assignments with precision, offering constructive feedback to support student growth and ensure academic excellence.</li></ul>	<b>Amherst, MA, USA</b> <i>Sep 2023 - May 2024</i>

## PROJECTS

<b>YOLO Knowledge Distillation</b> <i>ML Researcher</i> <ul style="list-style-type: none"><li>Collaborated in a team of two to develop an optimized knowledge distillation framework for YOLOv8 using PyTorch, achieving 37.61% accuracy improvement on Oxford Pets while compressing model to 2.7M parameters</li><li>Reduced model FLOPs by 95% (from 99.7B to 4.3B) and increased inference speed by 2.4x, enabling efficient deployment across CIFAR-10, Tiny-ImageNet, and Oxford Pets datasets.</li></ul>	<i>Nov 2024 - Dec 2024</i>
<b>UMass Outing Club Gear Locker Project</b> <i>Lead Backend Developer</i> <ul style="list-style-type: none"><li>Led the development of a scalable REST API using Express.js/TypeScript with Firebase Real-time Database, handling 100+ daily transactions and reducing data fetch latency by 60%</li><li>Managed a cross-functional team of 3 developers, implementing Agile methodologies and CI/CD pipeline with GitHub Actions, resulting in 30% faster feature delivery and zero critical production bugs</li></ul>	<i>Sep 2023 - Dec 2023</i>