Vageesha Datta Ganapaneni

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Education

- **Master of Science in Computer Science** Aug 2022 - May 2025
  University of Texas, Dallas *CGPA: 3.6/4.0*
  Relevant Coursework: Machine Learning, Design and Analysis of Algorithms, Operating Systems, Artificial Intelligence, Computer Vision, Natural Language Processing, Statistics in AI and ML
- **Bachelor of Technology in Computer Science and Engineering** Aug 2018 – June 2022
  SRM University, AP *CGPA: 9.06/10.00*

Experience

- **Computer Vision and Multimodal Computing (CVMC) Lab** Dallas
  Graduate Researcher– ML & Frontend Platform Development *Jan 2023 - Dec 2024*
  - Led CUDA-level optimization and multi-GPU training of T2AV, a state-of-the-art video-aligned Text-to-Audio model, improving alignment precision and reducing inference time by over 30%.
  - Co-designed and implemented a dynamic web platform using React for UI, Flask for backend services, and PyTorch for model inference, enabling real-time visualization and evaluation of ML models.
  - Contributed to the development of T2AV-Bench, a scalable validation suite powered by contrastive learning and GPU-cluster orchestration, automating fault-tolerant benchmarking of audio-visual models.
  - Designed user-friendly frontend interfaces and system dashboards for multimodal ML tools, enabling researchers to interact with and debug complex models more intuitively.
- **Fiserv** India
  Software Engineer *Dec 2020 - May 2022*
  - Designed and developed dynamic React dashboards using HTML, CSS, and JavaScript to streamline merchant onboarding and improve UI/UX consistency across internal tools.
  - Integrated frontend components with Flask-based REST APIs in a microservices architecture, enabling seamless communication and boosting deployment efficiency in Agile sprints.
  - Refactored legacy UI code by modularizing components and implementing responsive design with Material UI, improving page load speed and reducing support tickets by 25%.
  - Containerized applications using Docker and automated deployments to AWS EC2 instances, resulting in a more robust CI/CD pipeline and a 40% decrease in infrastructure incidents.
- **GeeksforGeeks** India
  Software Engineer *April 2019 - Nov 2019*
  - Built frontend features for educational tools using HTML, CSS, and JavaScript, supporting over 100K users with interactive, mobile-responsive experiences across devices.
  - Collaborated with backend developers to integrate Django-based REST APIs into web components, enhancing functionality while maintaining secure session and user state handling.
  - Improved browser compatibility and frontend performance by debugging layout inconsistencies and optimizing static assets, resulting in faster load times and better UX.

Projects

- **Instruction-Tuned Healthcare Chatbot with RAG Architecture**:
  - Developed a modular React frontend with real-time chat interface, integrating complex state management and optimized GPU batch inference for sub-second response times.
  - Implemented backend Flask APIs using FAISS and SentenceTransformers for dense retrieval, enhancing contextual accuracy by 19% via RAG-based instruction tuning.
- **StreamStyle:Scalable Real-time Video Style Transfer Platform**:
  - Engineered a React frontend featuring efficient video upload, processing status updates, and live previews, using CSS modules for responsive design and smooth UX.
  - Created scalable Flask REST APIs deployed on AWS EC2 with Docker, leveraging AdaIN and mixed-precision training to reduce inference flickering by 50% and computation overhead by 15%.

Technical Skills

- **Languages:** JavaScript, TypeScript, Python, HTML, CSS, SQL, Bash, C++
- **Frameworks & Libraries:** PyTorch, TensorFlow, React, Angular , Bootstrap, Material UI
- **Backend & APIs:** Flask, FastAPI, Node.js, RESTful API development
- **Cloud & DevOps Tools:** Docker, AWS (EC2, S3, Lambda, Auto Scaling), Terraform, Git, Unix/Linux
- **Technologies & Interests:** Object-Oriented Design, Data Structures, Algorithms, Agile Development,Deep Learning, NLP, Model Optimization, Fault-Tolerant Systems, Distributed AI Systems.