Vishruth Meda

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Education

University of Texas at Austin — Austin, TX
Bachelor of science in CS + Math — *Aug. 2025 – May 2028*

Experience

Full Stack and ML Developer — Feb 2026 – Present
Texas Luminescence: RateMyClub — *Austin, TX*

- Built a full-stack student organization review platform for UT Austin using React/Vite, Flask, Supabase, and Vercel enabling users to browse clubs, create accounts, leave ratings/reviews, and manage profile settings
- Designed and implemented core backend infrastructure including authentication, review creation/editing, revision history, reviewer contact workflows, and Supabase database integration with secure API patterns

Alzheimers Management Platform — Apr 2026 – May 2026
TxMomentum X UT Genesis Buildathon — *Austin, TX*

- Engineered a real-time patient safety platform using FastAPI, Next.js, OpenCV, YOLOv8, and face recognition to detect medication bottles, unfamiliar visitors, and hazards from live camera feeds.
- Built an AI-powered medication workflow using Gemini OCR, Supabase, and APScheduler to extract prescription details, store medication records, and automatically schedule patient and caregiver reminders.
- Developed multi-camera monitoring with laptop and mobile camera ingestion, server-side bounding-box overlays, and Tailscale-secured remote access, integrating Twilio and SendGrid for SMS, MMS, email, and emergency alerts

Procedural Simulation and AI Research — Aug 2024 – June 2025
Mentorship — *Frisco, TX*

- Worked under Professor Birsan Vlad to research the use of mathematics and physics to procedurally simulate rigid body movement and interaction with a 3 dimensional world in Unreal Engine
- Continued research to develop a fluid and dynamic animation system that automatically adapts to obstacle variables and player movement using Motion Matching
- Developed a Multi-State AI system that allows enemies to simulate realistic fighting patterns such as parrying, fleeing, healing, and hunting

Projects

Continuous Sign Language Recognition (CSLR) Research | *Independent Research* — August 2024 – Present

- Built a continuous sign-language recognition model in PyTorch, combining MediaPipe landmarks, a multi-scale temporal CNN, BiLSTM, CTC decoding, beam search, and an n-gram language model for offline and webcam inference that nearly matches research level models in limited gloss tests
- Curated and analyzed the 6,841-sequence PHOENIX-2014 corpus, building a pipeline to extract MediaPipe landmarks, interpolate missing keypoints, remove tracking artifacts, normalize motion features, and validate data quality across official splits, totaling around 500+ gigabytes of raw data
- Reduced padding-induced prediction drift from 0.082 to below $5 * 10^{-8}$ while preserving checkpoint compatibility by masking temporal convolution outputs and implementing packed-sequence BiLSTM processing with CPU/MPS regression tests

Homelabbing and ESPHome | *Soldering, KiCad, Fusion360, 3D Printing, Linux, Docker* — May 2026 – Aug 2026

- Repurposed an extremely old laptop into a home server through Ubuntu Server and Casa OS, which I utilized to run Jellyfin and Immich containers through Docker while using tailscale to access the server outside of LAN
- Utilized Fusion360, 3D printing, Soldering and ESP32s to develop door open/close sensors and housing for smart switches or bulbs which connect to the server through the ESPHome container, making maintaining lighting, garage, and doors more convenient

Technical Skills

Languages: Java, Python, C/C++, SQL, JavaScript, HTML/CSS, C Sharp
Frameworks: React, Node.js, Flask, FastAPI, Vite,
Developer Tools: Git, Docker, Supabase, Visual Studio, Vercel, Unreal Engine, Linux, 3D Printing, CAD, Soldering
Libraries: pandas, NumPy, Matplotlib, OpenCV, Mediapipe, PyTorch, Tensorflow