MOHAMMED YUSUF AHMED

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KEY PROJECTS

- **Work-Life Firewall (RL Training Env, Meta OpenEnv Hackathon).** First benchmark evaluating LLM task-refusal quality alongside task completion. Simulates a full work week with 7 simultaneous high-stakes events under real time and energy constraints, scored on a 5-component reward rubric (technical resolution, communication quality, boundary-setting, energy to Friday, relationship preservation) with anti-gaming mechanics. Trained Qwen2.5-Instruct via GRPO (trl.GRPOTrainer); proxy reward improved 0.760 to 1.481. Live demo on Hugging Face Spaces. Stack: Python, OpenEnv, TRL (GRPO), Qwen2.5-Instruct, Hugging Face, Kaggle GPU, WandB.
- **Vecna 3D (2D-to-3D Reconstruction Pipeline).** Python AI pipeline converting a single 2D image into a full 3D .obj mesh using Stability AI's TripoSR model, with automated background removal (rembg), alpha-channel blending, and foreground centering. Supports batch processing with GPU acceleration via CUDA; meshes importable into Blender, Unity, and Godot. Stack: Python, TripoSR, rembg, CUDA, Conda.
- **Agenza (Autonomous AI Agent Marketplace).** Marketplace platform for autonomous AI agents that automate academic and professional workflows end-to-end; architected modular agent pipelines in JavaScript enabling plug-and-play deployment of task-specific agents across domains. Stack: JavaScript, AI Agents, Full-Stack Web Development.
- **Invoice Exception Handler (AI Agent Env).** OpenEnv-standard AI agent learning environment simulating enterprise accounts payable exception-handling workflows; Dockerised Python service with an inference engine enabling autonomous agents to triage, classify, and resolve invoice exceptions. Stack: Python, Docker, OpenEnv, LLM Inference.
- **Military Convoy Risk Prediction System (Hackathon).** Route-safety system analysing historical attack data, terrain conditions, and weather to recommend safer paths through high-risk border zones, combining geospatial analysis with time-series forecasting. Stack: Python, Geospatial Libraries, Time-Series Forecasting.

EXPERIENCE

Open Source Contributor Apr 2026 – July 2026
GirlScript Summer of Code *Remote*
- Contributing to AI and web dev repos as part of a 30,000+ participant program

Co-Founder Feb 2026 – Apr 2026
Agenza Agents *Bengaluru, India*
- Led product ideation, prototype development, and go-to-market for an AI agent automation startup

Research Center Dashboard 2025
PES University (CDSAML) *Bengaluru, India*
- Building a role-based analytics dashboard for faculty research and publications; stack: React, JS

SKILLS

Languages	Python, JavaScript, HTML/CSS, C/C++
AI/ML	LLMs, Reinforcement Learning (GRPO), AI Agents, Computer Vision, NLP, 3D Reconstruction
Dev	React, Flutter, Docker, REST APIs, Hugging Face
Tools	Git, CUDA, Conda, Linux, WandB

EDUCATION

B.Tech, Computer Science Engineering Jun 2025 – Present
PES University, Bengaluru