

ANEESH GROVER

+1 (419) 213-0234 ✉ agrover@rockets.utoledo.edu [LinkedIn](#) [GitHub](#)

Education

University of Toledo

Toledo, OH

Bachelor of Science in Computer Science and Engineering

Relevant Coursework

- Data Structures and Algorithms
- Operating Systems
- Discrete Structures
- Object-Oriented Programming
- Computer Architecture
- Artificial Intelligence

Experience

AcademicAlly (ACM Thapar Society Project)

July 2024 – August 2025

Software Developer

- Built and maintained “AcademicAlly,” a university timetable parser deployed for **10,000+ students**.
- Led backend design (Python, Pandas, Openpyxl) and implemented custom error-handling, reducing parsing errors by **95%**.
- Deployed and maintained **live version** with continuous updates and bug tracking.

Projects

Audio Deepfake Detection

- Fine-tuned and benchmarked AASIST and AASIST-L (graph attention-based anti-spoofing models) on the ASVspoof 2019 LA dataset.
- Resolved versioning and dependency issues in ClovaAI’s original repo, added checkpointing and a modular inference pipeline.
- Achieved **3.37% EER** and **0.10 t-DCF** with AASIST-L (85K parameters) under constrained GPU resources, validating its efficiency for on-device deployment.

Plug-and-Play Indoor Navigation System

- Developed a full-stack indoor navigation platform (Next.js, FastAPI, Supabase) with real-time floorplan editing and dynamic route rendering.
- Implemented version-controlled JSON storage to track changes to the floorplan and facilitate easy rollback.
- Deployed on Vercel; exploring integration with large retail spaces for in-store guidance.

DeepResearch - Multi-Agent Research Assistant

- Built a LangGraph-based multi-agent pipeline integrating **Tavily API** and **Groq LLaMA3** for automated research synthesis.
- Implemented **FAISS-based retrieval** with HuggingFace embeddings for contextual content indexing
- Citation-aware RAG workflow to ensure responses are traceable and backed by reliable sources.

PatchIt – Civic Infrastructure Vision System

- Designed YOLO-based pothole detection pipeline achieving **85.8% precision & 81.7% mAP@50** across real-world civic datasets.
- Integrated **Depth Anything V2** to estimate 3D geometry and approximate repair costs, delivering actionable road condition insights.
- Co-led a team at **SatHack 2024**, developing a crowdsourced platform for civic infrastructure monitoring.

Skills

Machine Learning & AI: Deep Learning (PyTorch, TensorFlow), Transformers (NLP, RAG), CNNs, GANs, OCR, Depth Estimation
Computer Vision & Data Analytics: OpenCV, PyTesseract, Image Segmentation, Object Detection, ROI/3D Vision, Pandas, NumPy, Scikit-learn, Matplotlib
Programming & Development: Java, Python, C, C++, Next.js, FastAPI, Supabase, Streamlit
Tools & Platforms: Git, CUDA, Kaggle, VS Code, Google APIs, Manim
Essential Skills: Innovation, Adaptability, Collaboration, Initiative

Leadership & Involvement

Association for Computing Machinery (ACM) Thapar

Nov 2023 – Aug 2025

Executive Board (Community Collaboration) & Machine Learning Bootcamp Lead

- Organized ACM Thapar’s flagship hackathon Hacklipse 2024, hosting 300+ participants.
- Mentored 100+ students through ACM’s ML Bootcamp, designing curriculum and weekly sessions.

Achievements

- Runner-up among 150+ teams at SatHack (Open Innovation Track)
- Awarded Best Use Case at ACM Projectathon 2024 for AcademicAlly