Ananga Tripathee

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EDUCATION

Truman State University **GPA: 3.81 / 4.0, May 2028**

BS in Computer Science, Minor in Economics & Data Science

- **Relevant Courses**: Object Oriented Programming, Computer Systems Architecture, Foundations of Computer Science I & II, Calculus I & II, Statistics, Business Analytics
- **Honors and Awards**: President's Honors List, Provost List, President's Honorary Scholarship

TECHNICAL SKILLS

- **Languages:** C#, Java, JavaScript, Python, SQL, HTML/CSS
- **Frameworks / Libraries :** Avalonia**,** React, Flask, PyTorch, CUDA, SQLite / NumPy, Panda
- **Developer Tools:** Git, VS Code, Eclipse, Jupyter notebook, Anaconda, GitLab

PROFESSIONAL EXPERIENCES

Information Technology Services, Truman State University **Summer 2025-Present**

IT Technician Assistant

- Troubleshoot and resolve hardware, software, and network issues, documenting each case and analyzing recurring incidents to recommend fixes, reducing downtime and improving system reliability
- Installed, configured, and maintained computers, AV systems, and classroom technology, performed preventive maintenance, and supported campus IT by imaging computers to ensure reliability and optimal performance
- Managed IT inventory and provided data-driven insights to enhance asset accuracy, resource use and productivity

RESEARCH AND PROJECTS

Enhancing EfficientNet with Quaternion Convolutions

Research Project - **Grants-in-Aid of Scholarship and Research (GIASR)** - 2025

- Enhanced EfficientNet-B0 with quaternion convolutions to boost image classification accuracy by 2.45% (to 98.78%) on a 10K+ image dataset
- Implemented Quaternion Residual Blocks and optimized training with Mixup, label smoothing, and cosine warm-up using PyTorch on GPU/MPS hardware
- Presented research at GIASR Symposium on using quaternion operations for lightweight deep learning models

CognitiveAI Vision Inventory Tracker | Python, Google Gemini API, MongoDB, OpenCV

Hackathon Project - **HackMidwest** - 2025

- Developed an end to end system that uses a webcam and Google Gemini multimodal AI to automatically detect and categorize pantry items in real time
- Designed a Python pipeline with SSIM-based change detection and MongoDB upserts to track inventory and expiry data with TTL auto-cleanup, and added recipe suggestions using Atlas Text Search for AI-powered development
- Learned MongoDB database management and deployment of full-stack AI applications, gaining practical experience in building scalable, data-driven systems

Food Waste Reduction System | React, TypeScript, Node.js, Express, PostgreSQL, Google Gemini API

Hackathon Project - **Boeing x TruHacks** - 2025

- Developed a full-stack sustainability web application to track meals, analyze food waste, and promote sustainability
- Designed an AI-powered system using Google Gemini and Vision APIs to analyze food and receipt images, process data through a Node.js - Express backend, and display real-time insights on a React + TypeScript dashboard
- Learned to integrate AI with full-stack development and enhance data-driven, user-focused gamified systems

ACTIVITIES AND LEDEARSHIP

International Ambassador | Office of Admission, Truman State University **Jan 2025 - Present**

- Served as an orientation leader for incoming international students, managing check-ins, facilitating activities, and providing guidance while representing the University professionally and fostering a supportive campus community

Member | Google Developer Group, Truman State University **August 2024 - Present**

- Practiced technical interview skills for CS careers, and organized professional development activities and networking