Ananga Tripathee

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EDUCATION

TRUMAN STATE UNIVERSITY – Kirksville, MO Expected May 2028

Bachelor of Science, Computer Science, Minors: Economics & Data Science

- **Cumulative GPA: 3.81**
- **Relevant Coursework:** Object Oriented Programming, Computer Systems Architecture, Foundations of CS I & II
- **Honors and Awards:** President's Honors List, Provost List, President's Honorary Scholarship

TECHNICAL SKILLS

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

PROFESSIONAL EXPERIENCE

IT Technician Assistant | Information Technology Services | Truman State University May 2025 – Present

- Troubleshoot and resolve hardware, software, and network issues, implementing preventive fixes that reduce recurring incidents, significantly increasing system stability across the campus systems
- Managed and tracked the department's IT asset inventory; leveraged data insights to improve accuracy and optimize equipment lifecycle planning
- Deployed and maintained 300+ campus computers and AV systems over the summer, including imaging/configuring new systems to ensure operational readiness for classroom technology

RESEARCH AND PROJECTS

Enhancing EfficientNet with Quaternion Convolutions – 2025

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

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

CognitiveAI Vision Inventory Tracker – 2025

HackMidwest | Hackathon Project | Python, MongoDB, OpenCV, Google Gemini API

- Built a real-time AI system that detects and categorizes pantry items via webcam feed using Google Gemini's API
- Implemented SSIM-based change detection and MongoDB upserts with TTL cleanup to automatically track inventory and expiry data, improving system accuracy and reducing manual updates by 40%
- Integrated recipe suggestions using Atlas Text Search, showcasing multimodal AI integration and scalable data-driven pipelines that enhanced user engagement and functionality during live testing

Food Waste Reduction System – 2025

Boeing x TruHacks | Hackathon Project | React, TypeScript, Node.js, Express, PostgreSQL, Google Gemini API

- Developed a full-stack web application to monitor meals, analyze food waste, and promote sustainability
- Integrated Gemini and Vision APIs for real-time food and receipt image analysis, displayed via a React dashboard with TypeScript UI, ensuring type-safe and reliable frontend code
- Strengthened collaboration and deployment skills building a gamified sustainability platform with data-driven insights

LEADERSHIP & INVOLVEMENT

International Ambassador | Office of Admission | Truman State University Jan 2025 – Present

- Led orientation sessions for 100+ incoming international students, providing guidance and facilitating integration into the campus community
- Namaste Nepal (Treasurer), Google Developer Group, Community of College Entrepreneur