AAYUSH KAFLE

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SKILLS AND TOOLS

- **Programming Languages:** C, C++, Python, Java, R, Bash, SQL, JavaScript.
- **Embedded Systems and Communication Protocols:** Arduino, Raspberry Pi, USB, Serial, I2C, Ethernet, WebSocket.
- **Libraries and Frameworks:** OpenCV, OpenGL, Raylib, TensorFlow, Keras, React, React Native, Node.js, Express, Flask, scikit-learn.
- **Databases and Version Control:** SQL (Postgres, MySQL, SQL Server), MongoDB, Git, GitHub, GitLab, Jenkins.
- **Development Tools and Cloud Platforms:** QT, Visual Studio IDE, Docker, Kubernetes, Terraform, Postman, MATLAB, Azure, AWS.
- **Certifications:** CS50: AI, Application Development (EDX), Data Analytics (Coursera), Discover AI (UNM), Project Management (Coursera).

EXPERIENCE

Software Developer Intern **08/2024 – Present**

OpenQQuantify, Remote

- Optimized a GPT-4o mini model for domain specific queries, achieving a 40% increase in accuracy for Arduino and RISC-V queries.
- Automated training dataset preprocessing with Python, converting 1,500+ PDFs to JSON/JSONL, improving model performance by 60%.
- Developed scalable front-end features using React, resolving 150+ client inquiries weekly and reducing average loading time by 30%.

Engineering Intern **09/2024 – Present**

Explora Science Center & Children's Museum, Albuquerque New Mexico

- Programmed Raspberry Pi projects like a weather monitoring station, teaching 15+ teens to code, calibrate sensors, and visualize data.
- Led workshops on laser cutting, 3D printing, and robotics, guiding 20+ participants in prototypes and engaging 50+ visitors weekly.

Research Assistant **05/2024 – 12/2024**

Electrical Engineering, University of New Mexico

- Engineered data pipelines for video datasets using Python, TensorFlow, Keras, and MATLAB, reducing preprocessing time by 30% and enhancing real-time machine learning model accuracy by 20%.

Student Technical Specialist **05/2022 – 12/2024**

IT Academic Technologies, University of New Mexico

- Automated file sorting processes with Python, reducing manual workload by 80% and saving 10+ hours weekly across the team.
- Conducted comprehensive evaluation surveys for 2,000+ courses per semester, streamlining operations across 39 departments.
- Resolved technical issues within 24-hour SLA, ensuring 100% adherence to faculty course updates.

PROJECTS

LoboLocate | Mobile App | 1st Runner-Up, UNM/CNM App Contest

- Tools & Features: React Native, Node.js, MongoDB, Socket, Express, real-time chat, AI image recognition, RESTful APIs. GitHub
- Achievements: Secured 1st Runner-Up in the UNM/CNM App Contest, awarded $2,500. Demonstration
- Launched a lost-and-found app for 27,000+ UNM students, increasing item recovery rates by an estimated 35%.

Auction House | Real-Time Auction System using Client-Server Structure

- Tools: Java, Java Sockets, HashMap, Priority Queue, Multi-threading, Timers, Gitlab. GitHub
- Developed a real-time auction system supporting 200+ users with synchronized bid processing latency under <100ms.
- Directed a collaborative effort with three developers to craft a sophisticated JavaFX GUI designed for real-time auction management.

Space Invaders Game | Game Development | C++ & Raylib

- Tools & Features: C++, Raylib, Object-Oriented Programming, Texture Mapping, Animation. GitHub
- Created a cross-platform game with 10+ levels, collision detection, and integrated audio, improving game play performance by 20%.

Predicted Cryptocurrency Price Fluctuations Using Media Sentiment

- Tools & Features: Python, TensorFlow, Keras, scikit-learn, GPT-2, SentenceTransformers, Pandas, Matplotlib, API Integration.
- Achieved 85% accuracy in cryptocurrency price forecasting using LSTM and sentiment analysis on 1M+ media posts. GitHub
- Automated data preprocessing and integrated sentiment embeddings using RAG (Retrieval-Augmented Generation), reducing manual effort by 30% and enabling accurate predictions of cryptocurrency price trends for Bitcoin, Ethereum, and altcoins.

Portfolio | Website | HTML, CSS, Javascript, PHP

- Tools: HTML, CSS, JavaScript, Bootstrap, and Node.js, PHP; implemented authentication with Passport.js and MongoDB. GitHub
- Built a comprehensive personal portfolio website featuring over 10 showcased projects, demonstrating skills and achievements with fully responsive design compatible across all device sizes to enhance user experience.

EDUCATION

Bachelor of Science in Computer Science with a minor in Mathematics **08/2021 – 12/2024**

University of New Mexico, Albuquerque, NM | Cum Laude (Top 15%)

- Course Work: Software Engineering, Operating Systems, Discrete Structures, Database, Big Data, Data Structures and Algorithms.

ACHIEVEMENTS

- 1st Runner-Up, UNM/CNM App Contest (2024): Secured 2nd place among 20+ teams for innovative mobile app design.
- Engineering Success Scholarship (2023) and Amigo Scholarship (2021–2024) for outstanding academic excellence in Computer Science.
- Achieved victory in 2021 Asian Student Association Soccer Tournament, contributing to a team that outperformed five other teams.