Roshan Thapa Magar

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Professional Experience

iOS Software Engineer Remote

HYEL. Inc *Oct 2024 - Present*

- Led a team to design and deliver *Chase2D*, an iOS game leveraging Swift, GameKit, and SpriteKit, while ensuring timely project completion and version control through Git.
- Designed and developed core game mechanics and AI for Chase2D, utilizing Git for version control to manage code changes, streamline teamwork, and ensure code integrity.
- Engaging in workshops and mentorship sessions, expanding skills in game development, software engineering, and teamwork within an industry environment.
- Developed core game mechanics and AI, enhancing interactivity and game flow.

Resident Advisor Kirksville, MO

Residence Life, Truman State University *Aug 2024 - Present*

- Organized 10+ educational and social events to foster an inclusive and supportive living environment for 35+ residents.
- Facilitated conflict resolution, improving community satisfaction and engagement.

AI Undergraduate Researcher Kirksville, MO

Department of Computer Science, Truman State University *May 2024 - August 2024*

- Authored a comprehensive research paper titled: *Real-time Gun Detection using YOLO: A Deep Learning Approach for Public Safety* with Dr. Nazmul Shahadat analyzing CV models for real-time gun detection datasets.
- Published Research findings published at the prestigious ICCIT Research Conference 2024.
- Employed YOLOv8 in Python to detect call numbers on books to engineer a highly robust and accurate system for library call numbers on books.
- Tested various computer vision models in Python to detect weapons in real-time by engineering a highly efficient and accurate system.
- Published *Real-time Gun Detection using YOLO* at ICCIT 2024, achieving accurate real-time weapon detection using YOLOv8 and Python.

Education

Truman State University Kirksville, MO

Bachelor of Science in Computer Science and Data Science; GPA: 3.93/4.0 *May. 2027*

- Awarded scholarships covering 80% tuition and full room and board; President's List, Spring 2024, Fall 2024.

Projects & Research

FoooTrition | *JavaScript, GeminiAPI, HTML, CSS, LLM* Nov 2024 – Nov 2024

- Developed a web-based virtual assistant integrating text and audio interfaces to provide tailored nutrition advice for individuals with disabilities.
- Utilized GeminiAPI to deliver personalized dietary recommendations, leveraging machine learning and natural language processing.
- Implemented accessibility features, including an audio-based input and output system, to ensure usability for visually impaired users.

Callnumber Detector(Bell Family Foundation Grant) | *Python, YOLOv8, Matplotlib* May 2024 – Aug 2024

- Developed a library call number detection system using YOLOv8 and Python, achieving 98% accuracy; compiled a custom dataset for training and testing.
- Improved OCR accuracy from 74.26% to 100% by leveraging inventory sheets and implementing the Levenshtein distance algorithm.

Technical Skills

Languages: Python, Swift, JavaScript, TypeScript, C/C++, Java, SQL, HTML/CSS, Bash, GLSL
Frameworks: iOS, UIKit, Android, .Net , React, Flask, TailwindCSS, Material-UI, Google App Scirpt
Developer Tools: Git, Xcode, Firebase, Vim, VS Code, Visual Studio, Android Studio, Eclipse, IntelliJ
Libraries: Gamekit, Spritekit, PyTorch, TensorFlow, pandas, NumPy, Matplotlib, YOLO, BeautifulSoup, Selenium