

# Roshan Thapa Magar

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## EDUCATION

### Truman State University

Kirkville, MO

*Bachelor of Science in Computer Science and Data Science; GPA: 3.90*

*Aug. 2023 – May. 2027*

- Awarded scholarships equivalent to 80% of the tuition amount and full room and board

## PROFESSIONAL EXPERIENCE

### Resident Advisor

Kirkville, MO

*Residence Life, Truman State University*

*August 2024 - Present*

- Acted as a liaison between residents and university administration, effectively communicating important information and updates.
- Fostered a positive and inclusive living environment for over 35 residents by organizing social, educational, and recreational events.
- Mediated conflicts between residents, providing support and guidance to resolve issues amicably.

### Undergraduate Researcher

Kirkville, MO

*Department of Computer Science, Truman State University*

*May 2024 - August 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.
- Discovered a light and simple solution to improve model accuracy from 79% to 100%.
- Awarded a grant of \$1500 to conduct research and to present it to the Student Research Conference.
- Research findings published at the prestigious ICCIT Research Conference 2024, showcasing innovative advancements in library call number detection.

### Artificial Intelligence Research Assistant

Kirkville, MO

*Department of Computer Science, Truman State University*

*October 2023 – April 2024*

- Conducted research and authored a comprehensive research paper with Dr. Nazmul Shahadat analyzing various models for real-time gun detection datasets.
- Learned and implemented a range of computer vision algorithms to enhance the accuracy and efficiency of gun detection systems.
- Delivered detailed presentations to the research team, summarizing findings from various academic papers and research studies.

## PROJECTS & RESEARCH

### Callnumber Detector(Bell Family Foundation Grant) | Python, YOLOv8, Matplotlib May 2024 – August 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.

### AIKinator | Python, Django, REST API, Tensorflow, HTML, CSS, Javascript

March 2024 – March 2023

- Created an Akinator clone that uses an AI model for disease detection based on user-provided symptoms.
- Trained a neural network on a large dataset of diseases and their symptoms to accurately predict diseases.
- Built the backend using Django and implemented a REST API to connect with the frontend

### Portfolio CLI | Typescript, TailwindCSS, Three.js, HTML, CSS, GLSL, Git

December 2023 – December 2023

- Designed and deployed an aesthetical and responsive personal portfolio website to exhibit personal projects.
- Programmed a 3D environment with a functional command line interface from scratch in HTML5 canvas and GLSL shaders.

## TECHNICAL SKILLS

**Languages:** Python, JavaScript, TypeScript, C/C++, C#, Java, SQL, HTML/CSS, Bash, GLSL

**Frameworks:** Android, .Net, React, Flask, TailwindCSS, Material-UI

**Developer Tools:** Git, Firebase, Vim, VS Code, Visual Studio, Android Studio, Eclipse, IntelliJ

**Libraries:** PyTorch, TensorFlow, pandas, NumPy, Matplotlib, YOLO, BeautifulSoup, Selenium