KIRANA IRFANO

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EDUCATION

COLORADO SCHOOL OF MINES, GOLDEN COLORADO GPA 3.9

Master of Science in Computer Science MAY 2025

- Memberships: Society of Women Engineers (SWE), Society of Asian Scientists and Engineers (SASE), Indonesian Student Association (ISA)

Bachelor of Science in Computer Science – Data Science Specialty AUG 2024

- Honors and Awards: Summa Cum Laude, Presidential Merit Scholarship Recipient, Dean's List, "Leadership by Design" Grandey Honors Program

SKILLS AND INTERESTS

Technical Skills: Python, SQL, C++, Machine Learning and AI, Numpy, Pandas, Pytorch, TensorFlow, Keras, Flask, Git, Scala, Linux, R, Excel, Java, AWS, Statistical Modeling and Analysis, Software Engineering, Database and Network Management, JavaScript, OCaml, Docker, HTML, CSS, Agile Software Development

EXPERIENCE

RESEARCH ASSISTANT - Aria Labs, Colorado School of Mines AUG 2024 – MAY 2025

- Collaborate with hardware and autonomy team to integrate Robot Operating Systems (ROS) and autonomy algorithms to facilitate a robot tour guide for a campus environment.
- Leverage large language models to translate verbal commands into precise robotic actions using OpenAI's Assistant API.
- Enhance natural language processing capabilities to improve robot-human interaction through speech to text recognition and wake word detection.

SOFTWARE ENGINEER INTERN - Ricoh, Golden/Boulder MAY 2024 – JUN 2024

- Led as Scrum Master to develop a multimodal chatbot in Python using generative AI and semantic search, reducing printer error lookup and issue resolution time for technicians to under 6 seconds.
- Utilized retrieval augmented generation (RAG) to process diverse documentation (PDFs, websites, images, videos, etc.), extract, chunk, and convert text into vector embeddings for a searchable database used as context for a large language model (LLM).
- Integrated OpenAI's GPT-3.5 to generate comprehensive and concise responses from semantic search results to minimize error.

RESERVOIR DATA ANALYST - Chevron/PDC Energy, Denver MAY 2023 – AUG 2023

- Programmed regression-optimization model for supervised learning in Python to optimize EUR oil numbers.
- Applied linear regression and random forests models to predict EUR oil forecasts.
- Increased predicted oil production by ~5% using optimized solution while reducing 30+ hours of work to under 1 hour.
- Partnered with reservoir engineers to analyze a dataset of 120+ features and 50,000+ samples on well spacing and oil production.

ADMINISTRATIVE ASSISTANT - Residence Life, Colorado School of Mines AUG 2022 – JUN 2023

- Delivered high quality customer service to 350+ first-year students, handling inquiries/issues and managing check-ins.
- Created and maintained interpersonal relationships with university staff, residents, and other stakeholders.

PROJECTS

INFINITE ISLANDS, 3D OPEN WORLD GAME

- Designed and developed an educational 3D open-world questing game in Unity, featuring a post-apocalyptic world fragmented into floating islands.
- Programmed character interactions, quest logic, and story lines that taught players about environmental challenges and empower them with actionable solutions.

PROTEIN STRUCTURE PREDICTION USING MACHINE LEARNING

- Predicted protein structures from a sequence alignment using a random forest model and a K-nearest neighbors model.
- Utilized hyperparameter tuning to improve accuracy of both models to above 90%.

TEAM LEAD, LARGE LANGUAGE MODEL PROJECT

- Led a team in employing Large Language Modeling using OpenAI GPT 3.5 model and python libraries.
- Developed a program that can read an input PDF file and create flashcards that promotes interactive learning.

BREAST CANCER CLASSIFICATION PROJECT

- Trained SVM models to classify breast cancer data as "benign" or "malignant" based on preprocessed and feature-selected data.
- Model trained on over 15,000 observations and 15 features with 97% accuracy in classifying data.