Nathan Roberts

240-310-8015 • nkroberts01@gmail.com
www.linkedin.com/in/nathan-roberts-325857219

TECHNICAL SKILLS

Languages/Tools: Python | PyTorch | SQL | Pandas | Java | C++ | Go | C | MATLAB | SQL | Tableau
Other Skills: GitHub | AWS (EC2, S3, RDS, SageMaker) | Snowflake | SLURM | Microsoft Office | Spanish

EXPERIENCE

Microwave Remote Sensing Lab, Brigham Young University   May 2022 - Present
Research Assistant   Provo, UT
- Currently implementing machine learning models (GAN, U-Net) to classify sea ice pixels in Antarctica.
- Performed extensive data analysis on SMAP satellite data in Antarctica using MATLAB. Data is used to investigate melting, undiscovered geophysical features, and wind patterns.
- Processed and performed quality assurance on 3+ terabytes of satellite data using several C and Python scripts.

Business Strategy Lab, Brigham Young University   Aug 2024 - Present
Research Assistant   Provo, UT
- Currently building out a reinforcement learning model to simulate economies and optimize market enter and exit strategies using a Deep Q Network.
- Converted 10 python functions and classes to C++ to optimize performance.

Computer Science Department, Brigham Young University   Sep 2024 - Present
Teaching Assistant   Provo, UT
- Machine Learning Operations: Provide feedback and improve course material for brand new MLOps class. Assist students in troubleshooting problems within AWS services such as SageMaker, EC2, S3, Glue, and RDS.
- Intro to Data Science: Facilitate learning for students in key data science tools, including SQL, Pandas, Tableau, basic EDA, and scikit-learn, through hands-on lab instruction and guided exercises.

Cartwheel, New York   May 2024 - Dec 2024
Data Annotator   New York, NY
- Annotated and describe video motion data using a novel labeling system to train AI models for text-to-animation conversion, ensuring high-quality and accurate data.
- Reviewed and labeled over 2,000 video clips with meticulous attention to detail, contributing to the development of cutting-edge AI technology for motion understanding.

Student Life Technology   Feb 2023 - Sep 2024
Web Application Developer   Provo, UT
- Built a web application now in production to handle accommodations and disabilities for entire university.
- Leveraged 70+ entities in a relational Postgres database and 15+ distinct rest APIs to import and export data, three of which I built tailored to the needs of other departments.
- Led weekly demo meetings and sprints for teams of 2-3, driving collaboration, iterative development, and timely delivery of key project milestones.
- Wrote 5 python scripts to handle mapping and importation of data from previous application/database.

Medkick   Apr 2024 - Jul 2024
Data Science Intern   West Palm Beach, FL
- Designed and constructed a PostgreSQL relational database (20+ entities) to efficiently store and manage company data, including schema design and implementation
- Leveraged multiple APIs to consolidate company data into a comprehensive dashboard using Power BI.

EDUCATION

Brigham Young University   Apr 2025
Computer Science, Machine Learning Emphasis   Provo, UT
- 3.76/3.77
- Relevant course work: Deep Learning, MLOps, Data Structures, Artificial Intelligence, Linear Algebra, Data Engineering, Software Engineering, Algorithm Design, Systems Programming.
- Led capstone team to scale vector database with over 2 million entries, improving average query time to 100 milliseconds and precision to .75 on facial recognition tasks.