Oscar J. Escobar

LinkedIn | GitHub

SKILLS

- Skills
  - Deep Learning, ML, NLP
  - Flask (Web App)
  - MLOps & LLMOps
  - Bayesian Stats & Data Assimilation & Time Series
  - Modeling with Dynamics & Optimal Control
  - AI: LLMs, MCP, RAG, Tool Calling, Chroma DB
- Coding/Software:
  - Expert: Python, Git/GitHub, Unix Shell/Bash
  - Proficient: Flask, SciKit Learn, PyTorch, StatsModels, Optuna, Pandas, Ollama & OpenAI API; SQL
  - Experience with: AWS, HTML, C++, R, PySpark, Oracle, Excel & Power BI, Tachyon Studio

PROFESSIONAL EXPERIENCE

AI & Frontend Intern Engineer **June 2025 — Aug 2025**
Wells Fargo—intelligent Monitoring & Automation Team *Minneapolis, MN*
- Co-authored PY-HTML module that automates reporting for a team 24, improving efficiency by 87%
- Built Flask interactive tool to analyze process data, producing tables and time-series plots of activity for trend analysis
- Tested various LLMs & hyperparameters in Tachyon Studio for agent tool creation

Machine Learning Intern Engineer **June 2024 — Aug 2024**
Wells Fargo—Advanced Analytics & Solutions Team *Minneapolis, MN*
- Crafted NLP text classification model that achieved 77% cross-validated accuracy on high-error-prone data
- Leveraged NLP and statistical analysis to perform feature engineering and presented NLP results and findings to team
- Wrote an executive summary detailing overall team results, findings, and suggestions presented to upper management

Machine Learning & Data Science Student Engineer **April 2023 — April 2024**
Family Search—Automated Content Extraction Team *Lehi, UT*
- Performed data analysis on ML model output using self-made Python script that compared over 100 records at a time
- Identified model improvement areas that led to an increase in correct predictions of 20-30% using Python script
- Spearheaded efforts and meetings with a team of 3 data labelers to create training data and define project benchmarks

RESEARCH & PROJECTS

AI/LLM/NLP
- Co-crafted agent with Expo (JS) that suggests academic improvement based on grade pattern that won 2nd place
- Investigating the robustness of RLHF, DPO, and IPO on small base LLM using noisy data from Stanford

Data Science & Modeling
- Predicted the location of a submarine on a 2D grid using particle filters
- Predicted weather patterns and surrogate crop yield to high accuracy using time series analysis (ARMA & SARIMAX)

Deep Learning **Dec 2025 — Present**
- Co-published a study of deep reinforcement learning using various decaying greedy policies and replay selection
- Performing a case study of NPG, TRPO, and PPO on robotic walker environment

Research Assistant **Sept 2024 — Present**
BYU Mathematics Department *Provo, UT*
- Crafting Markov-Chain-Monte-Carlo model to find multivariable roots of nonlinear system
- Developing MLOps architecture to train neural network to solve nonlinear PDE

EDUCATION

Bachelor of Science: Applied and Computational Mathematics **Dec 2025**
Brigham Young University *Provo, UT*
- 2023-2024 Math Class President; BYU SIAM Chapter Vice-president; AI & Data-Science Club Member
- Minor: ML & AI
- Relevant Courses: MLOps & LLMOps; Agentic AI Applications