Serena Alvarez

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EDUCATION

Master's of Data Science, University of California, Irvine — Sep 2023 – Dec 2024
Focus on Machine Learning and Artificial Intelligence

B.A. Quantitative Economics, University of California, Irvine — Jun 2022
Specialization in International Issues and Economics
Minors in Mathematics and Statistics

PROFESSIONAL EXPERIENCE

R&D Intern, Machine Learning / Artificial Intelligence, — Jun 2022 – Present | Herndon, VA
Electronic Warfare Associates (EWA)
- Implemented data processing pipelines to facilitate efficient analysis and interpretation of complex datasets
- Developed machine learning models with custom loss functions to create unique profiles of IQ data using dimension reduction techniques
- Created time series-based anomaly detection algorithms for predictive analysis of JTAG data
- Collaborated on the integration of a Docker-based unified dev environment for a multidisciplinary team
- Established framework for large-scale data transformation and computation in the cloud, utilizing Python, Spark, and GCP

SKILLS

Python, R, SQL (MySQL)
Deep-rooted expertise enabling data-driven decision-making, from crafting predictive models to automating data processes.

TensorFlow, Pytorch
Engaging with the leading edge of deep learning technologies to sculpt models that not only predict but also innovate.

Docker, Git/Github
Implementing containerization and version control to enhance project agility and team collaboration.

Time Series Analysis, Econometric Analysis
Advanced application of statistical methods to unearth trends and inform strategies.

Machine Learning, NLP (Natural Language Processing)
Hands-on creation of intelligent models that understand and interpret human language, driving intelligent automation.

ETL Pipeline Construction, Apache Spark, GCP (Google Cloud Platform)
Agile development of data pipelines ensuring efficient data flow and processing at scale.

Data Visualization, MATLAB
Translating complex data sets into compelling visual stories for actionable insights.

PROJECTS

Analysis of Zidovudine Treatment on CD4 Count Dynamics in HIV Patients — May 2021
- Collaborated on a team to investigate the effectiveness of Zidovudine treatments on CD4 counts in HIV patients
- Conducted rigorous statistical exploration, assessing treatment efficacy over time using Linear Mixed Effects Modeling
- Authored a detailed report to allow actionable insights for public health advancement

Clinical Concept Recognition in Patient Histories Using Natural Language Processing (In-Progress) — Feb 2024 – Present
- Developing an NLP model to identify key clinical terms from patient notes, to aid in a quicker and more accurate diagnosis.

LEADERSHIP

MDS Program Ambassador, Class of 2024 — Sep 2023 – present
- Advocate for interdisciplinary collaboration and innovation
- Act as a student liaison and provide mentorship to prospective data science students

The Futurist Society at UCI, Co-Founder & Vice President — Apr 2021 – Jun 2022
- Co-founded a platform aimed at igniting discussions on cutting-edge technologies
- Coordinated guest speakers and workshops that encouraged the exploration of new and future technologies