Sebastian Algharaballi-Yanow

AI/ML Engineer & Data Scientist

San Diego, CA | sebastianalgharaballi@gmail.com | GitHub | Linkedin | Website

Technical Skills:

Programming Languages/Libraries:

- Python, R, SQL. Extensive experience with Pandas, Numpy, Seaborn, Sci-kit Learn, MatPlotLib, PyTorch, Tensorflow, NLTK, Spacy, OpenCV, SciPy, Transformers, the Tidyverse, and LLM APIs.

Machine Learning/Artificial Intelligence:

- Supervised/Unsupervised Learning, Deep Learning, Predictive Modeling, Emotional Intelligence, Prompt Engineering, Computer Vision, Human-Centric AI, Large Language Models (LLMs).

Data Science & Analytics:

- Data Wrangling, Exploratory Data Analysis (EDA), Data Visualization, Statistical Analysis, Databases.

Tools/Technologies:

- Git/Github, R Studio, mySQL, PostgreSQL, Google Cloud Platform, Tableau, Power BI.

Education:

UC Irvine – *Master of Data Science*
September 2023 - December 2024

UC San Diego – *Bachelor of Science in Cognitive Science: Machine Learning & Neural Computation*
September 2020 - June 2023

University of California, San Diego Extension – *Specialized Certificate, Machine Learning*
June 2022 - June 2023

Professional Experience:

Stealth Talent Solutions - *Machine Learning/Artificial Intelligence Engineer*
November 2024 - Present

- Engineered and deployed a production LLM chatbot that transforms basic job requirements into comprehensive job descriptions (JDs), enabling recruiters to create **200+ tailored JDs per day.**
- Built a custom transformer-based model for parsing unstructured job descriptions and resumes, identifying **150+ successful** placements that traditional keyword matching would have overlooked.
- Optimized a vector-search embedding pipeline with **PGVector** and **AWS Bedrock Nova Pro**, improving query latency by more than **30%** and scaling throughput substantially.
- Reduced monthly cloud compute costs by roughly one-third through **LLM quantization**, **request batching**, and **spot-instance utilization** without impacting latency.

Scale AI - *Generative Artificial Intelligence Prompt Engineer*
April 2024 - Present

- Refined the responses from a pre-release version of a ChatGPT model to enhance emotional intelligence and human-like interactions in real-time conversations, significantly improving beta-specific satisfaction scores from **3.6/5 to 4.67/5.**
- Implemented reinforcement learning techniques using human feedback on nearly 500,000 interactions, increasing the percentage of AI responses rated as "relevant and humanistic" by human evaluators from **61% to 83%.**
- Engineered several prompt frameworks utilizing chain-of-thought and few-shot learning techniques, reducing response latency across multiple production-scale LLMs from an average of **2.3 seconds to 1.1 seconds** while improving task completion accuracy from an average of **88% to 95%**.

Plink.bio - *Software Engineer Intern - GenAI*
October 2024 - February 2025

- Architected a multi-modal content analysis pipeline combining video frame analysis, Optical Character Recognition (OCR), and speech-to-text to extract comprehensive metadata from creator content, processing videos in **under 3 seconds.**

- Developed an **end-to-end LLM system** that analyzes creator content across multiple languages, providing personalized content strategy recommendations by processing visual elements, transcripts, and audience engagement patterns.

- Built and integrated computer vision models for real-time object and brand detection in videos, with initial testing across **1000+ frames** showing **90% accuracy** in identifying monetizable product placement opportunities.

MoodMe - *Machine Learning Engineer & Co-Founder*
October 2023 - October 2024

- Expanded our emotion detection training dataset from 3 to 7 major ethnic groups, **increasing** overall accuracy across all demographics from **68% to 87%** and **reducing** misclassification rates in underrepresented groups by **62%**.

- Enhanced our emotion detection model through transfer learning, boosting, and noise injection, improving its accuracy in identifying emotions from **75% to 91.5%** across 8 emotion categories.

- Created MoodMirrors, a well-being diary powered by a customized BERT text emotion detection model. Achieved an F1 score of **89%** in detecting emotions across 8 categories, resulting in a **41% increase** in user-reported emotional self-awareness after 2 months of consistent use in beta testing.

Sportradar US - *Sports Data Operator*
September 2022 - October 2024

- Attended and recorded game-related statistics for **over 250** NCAA and professional sporting events across 4 different sports (basketball, baseball, volleyball, and soccer).

- Improved on-site data collection efficiency by suggesting a UI modification within the basketball play-by-play logging workflow, **reducing** average input time per play from **8 seconds to 3 seconds**.

- Achieved 5-star performance ratings, placing in the **top 10%** of data operators in the United States.

Relevant Projects:

Natural Language Financial Analytics on CEO Communication: (Presentation)

- **Problem:** Explored the human element in corporate communication by investigating the relationship between CEO language choices in earnings calls and future financial performance.
- **Action:** Developed an analysis pipeline including text preprocessing, text-to-numeric conversion techniques (TF-IDF and SVD), and correlation analysis with financial metrics. Applied sentiment analysis and statistical tests to uncover nuanced patterns in communication styles.
- **Result:** Uncovered industry-specific relationships between earnings call sentiments and financial metrics for Apple and Lululemon. Found no strong evidence of short-term causality, but identified correlation patterns in sentiment and financial performance between the two companies.
- **Impact:** Emphasized the importance of context-aware financial analysis by showing how the impact of human communication on financial metrics varies significantly between companies.

Autoencoder Anomaly Analysis for NBA Players: (Research Paper)

- **Problem:** Explored the human element behind game-to-game performance variations in NBA players, with a focus on Kobe Bryant's 2008-2009 season.
- **Action:** Developed an autoencoder machine learning model to uncover patterns in player statistics that might reflect physical and emotional factors affecting performance.
- **Result:** Achieved high accuracy in identifying above or below average games, providing insights into how factors like rest, travel, and game importance influence a player's output.
- **Impact:** Demonstrated how machine learning and data analysis can be used to understand human performance, potentially enabling more personalized enhancement strategies.