

# Sebastian Algharaballi-Yanow

## AI/ML Engineer & Data Scientist

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### 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 ChatGPT O-1 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.