Bennett Bishop

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EDUCATION

University of California, Santa Barbara — **Goleta, California**
B.S., Statistics and Data Science; B.A., Philosophy; Certificate, Technology Management — *June 2025*

SKILLS & COMPETENCIES

Languages/Libraries: Python (Tensorflow, Keras, Scikit-learn, Pandas, Numpy), Rust, R, SQL (PostgreSQL, MySQL), Javascript, Typescript, React.js, HuggingFace (Transformers)
Competencies: Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Deep Learning Architecture (i.e., MLPs, CNNs, LLMs), Machine Learning Algorithms (e.g., Support Vector Machines, Random Forests)

PROJECTS

Internal Employee Request Text Classifier — **Goleta, California**
Finetuning DistilBERT for Text Classification using LoRA — *December 2024 - January 2025*

- Developed and **fine-tuned** a text classification model using **TensorFlow** and **Keras** to categorize internal employee requests into departments such as HR, IT, Finance, Facilities Management, and Marketing.
- **Reduced training time by 18%** and reduced trainable parameters from **67 million to 1 million** through **Low-Rank Adaptation (LoRA)** fine-tuning, maintaining **near-perfect accuracy** (99%) with minimal drop in success metrics (i.e. Precision, Recall, F1).

UFC Machine Learning Project — **Goleta, California**
Originally an R Project, turned into a Python App — April 2024 - June 2024

- Created an **interactive Python app** using **Scikit-Learn** to predict the winner between two selected fighters, leveraging extensive OpenAI **prompt engineering** to deliver curated, data-driven explanations.
- Cleaned a dataset containing career statistics for UFC fighters, developed models including **Logistic Regression, Linear Discriminant Analysis, Decision Tree, Random Forest, and K-Nearest Neighbor** using 10-fold cross-validation, selecting the best-performing model with an **ROC-AUC of ~80%** to predict fight outcomes.

Optimizing SD Public Transit — **Goleta, California**
Data Science UCSB Project Showcase 1st Place Winner — October 2022 – May 2023

- Led a team in a collaborative data science initiative, using **simulated annealing** techniques, **NumPy**, and **GIS data** to develop algorithms enhancing public transit efficiency in San Diego.
- Our project was **awarded First Place** at the 2023 Spring Project Showcase, **outperforming 26 competing projects** and highlighting our project's tangible potential to help underserved communities.

WORK & LEADERSHIP EXPERIENCE

UCSB Alumni Center — **Goleta, California**
Data Analyst Intern — August 2024 – Present

- Analyze and visualize alumni data using **Excel**, **Looker Studio**, and **PowerBI** to support strategic decision-making and engagement initiatives.
- Delivered data-driven strategies that boosted the UCSB Alumni Newsletter **open rate by 132%** within three months.

Brainsink — **San Francisco, CA (Remote)**
Lead Engineer — June 2023 – Present

- Lead engineer of Brainsink, a SaaS platform designed to enhance collaboration in construction projects.
- Engineered 17+ interactive pages, 20+ complex components, and 25+ mutations and queries using **TypeScript, React, GraphQL, PostgreSQL,** Prisma, RedwoodJS, hosted via **AWS**.
- Designed and developed dynamic **Retrieval-Augmented Generation (RAG)** chatbots utilizing OpenAI APIs for **text embedding, vectorization, retrieval, and generation** in conjunction with **vector stores** for efficient semantic search.
- Developed an architecture to dynamically generate multiple chatbots per project, ensuring personalized interactions.

OTHER

Work/Leadership: Director of Events at Data Science UCSB (May 2024 - Present), Software Engineering Intern at Amotions, Inc. (Dec 2022 – Sep 2023), UCSB D1A Rugby (Sep 2021 - June 2023), Eagle Scout at BSA (Dec 2019)
Projects: Built a Multilayer Perceptron from scratch using Rust