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 (PyTorch, TensorFlow, Keras, Transformers, Scikit-learn, NumPy, Pandas), Rust, R, PostgreSQL, JavaScript/TypeScript, React
Competencies: Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Machine Learning Algorithms (e.g., SVMs, RFS), Deep Learning Architecture (i.e., MLPs, CNNs, LLMs)

PROJECTS

Internal Employee Request Text Classifier   **Dec 2024 - Jan 2025**
TensorFlow and Keras; Fine-tuning DistilBERT
- 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 99% accuracy with minimal drop in Precision, Recall, and F1.

UFC Machine Learning Project   **Apr 2024 - Jun 2024**
Scikit-learn and R; Various ML Algorithms
- 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.
- Built 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.

WORK & LEADERSHIP EXPERIENCE

Cheadle Center for Biodiversity and Ecological Restoration   **Jan 2025 – Present**
Lead Research Assistant
- Designed the system architecture for a multimodal RAG chatbot, integrating text and image embeddings to enhance retrieval for researchers and the public. Leading my undergraduate team in implementation.
- Staying up-to-date with AI/ML trends to assess trade-offs in system architecture, data processing, and model selection.
- Regularly briefing lab directors to align technical decisions with cost and usability goals.

Data Science UCSB   **May 2024 – Present**
Director of Events
- Lead the strategic planning and execution of over 50 events, engaging a community of 500+ club members, including the ongoing Big/Little program.
- Organize outreach to companies and coordinate partnerships for various events, enhancing networking opportunities for members.

Brainsink   **Jun 2023 – Present**
Lead Software Engineer
- Engineered 17+ interactive pages, 20+ complex components, and 25+ mutations and queries using TypeScript, React, GraphQL, and PostgreSQL, delivering a fully functional project management website.
- Designed and implemented dynamic RAG chatbots utilizing OpenAI APIs for text embedding, vectorization, retrieval, and generation in conjunction with vector stores for efficient semantic search.

OTHER

Work/Leadership: Data Analyst at UCSB Alumni Association (Aug 2024 - Present), Software Engineering Intern at Amotions, Inc. (Dec 2022 – Sep 2023), UCSB D1A Rugby (Sep 2021 - Jun 2023), Eagle Scout at BSA (Dec 2019)
Projects: Optimizing SD Public Transit - Winner, 1st Place at Data Science UCSB Project Showcase (May 2023)
Interests: Rugby, Weightlifting, UFC, Jazz Trombone, Symphony Orchestra, Piano, Riddles, NYT Games