Bennett Bishop

(831) 251-5722 | bennettjamesbishop.github.io/ | bennettjamesbishop@gmail.com |

EDUCATION

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

SKILLS & COMPETENCIES

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

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.

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.

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: IM Basketball, Rugby, Weightlifting, Jazz Trombone, Symphony Orchestra, Piano, Riddles, NYT Games