

Bennett Bishop

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EDUCATION

University of California, Santa Barbara

B.S., Statistics and Data Science; B.A., Philosophy; Certificate, Technology Management

Goleta, California

June 2025

SKILLS & COMPETENCIES

Competencies: Natural Language Processing (NLP), Retrieval-Augmented Generation (RAG), Machine Learning Algorithms, Deep Learning Algorithms (i.e., MLPs, CNNs, LLMs)

Languages/Libraries: Python (PyTorch, TensorFlow, Keras, Transformers, Scikit-learn), Rust, R, PostgreSQL, JavaScript/TypeScript, React

WORK & LEADERSHIP EXPERIENCE

AI Research Engineer

Jan 2025 – Present

Cheadle Center for Biodiversity and Ecological Restoration

- Architected a sophisticated multimodal RAG chatbot using LangChain, GPT-4 Vision, and CLIP image embeddings with OCR text extraction, enabling researchers to rapidly resolve queries with full visibility into information sources.
- Leads a team of 5 researchers, delivering weekly technical briefings to laboratory directors, translating complex ML concepts into actionable insights, educating stakeholders, and accelerating research adoption.

Machine Learning Engineer

Aug 2024 – Present

UCSB Alumni Association

- Engineered an HTML content standardization system using Python, BeautifulSoup, and OpenAI's GPT-4 with an intuitive user interface for company interns, reducing manual processing time from hours to minutes (98% reduction).
- Applied prompt engineering with example-based pattern matching, achieving a BLEU score of 0.7, saving 150+ hours annually, which were redirected to strategic projects while ensuring knowledge transfer through accessible tooling.

Full-Stack Software Engineer

Jun 2023 – Nov 2024

Brainsink

- Built an enterprise project management platform with 17+ interactive pages and secure document collaboration features, implementing a comprehensive TypeScript/React frontend connected to a GraphQL/PostgreSQL backend with 25+ API endpoints.
- Architected and deployed production-ready RAG chatbot system by integrating OpenAI embeddings, vector storage, and context-aware retrieval pipelines to enhance document-based Q&A.

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-score.

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 such as 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 with Scikit-Learn for fighter match predictions, integrating a secondary dataset to enable real-time fighter selection and leveraging prompt engineering for curated, data-driven explanations.

OTHER

Work/Leadership: Director of Events at Data Science UCSB (Jun 2023 - Present), Software Engineering Intern at Amotions, Inc. (Dec 2022 – Sep 2023), UCSB D1A Rugby (Sep 2021 - Jun 2023), Eagle Scout at BSA (Dec 2019)