Bobby Becker

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Education

Tulane University, *Bachelor's of Arts*   ***August 2020 - May 2024***
Philosophy & Computer Science, *Cum Laude*

Tulane University, *Master's in Computer Science*   ***August 2024 - May 2025***
Focus: AI, Data Science, Natural Language Processing

Experience

Advice Company
Software Engineer   ***July 2024 - Present***
- Managed & integrated features across 8 websites which provide legal resources
- Developed BERT search engine for expert witness directory, launched to 500+ paying subscribers
- Backend in Python/Huggingface, deployed via Dockerfile & Google Cloud, integrated via JS & HTML

Research

Computational Analysis of Philosophical Texts
ML Research under Dr. Aron Culotta; Conference Paper in Review   ***August 2024 - May 2025***
- Developed NLP pipeline to analyze 109,692 references across 1,076 philosophical texts
- Created novel interactive tool to visualize & analyze reference networks between authors
- Employed transformer-based models to classify references by topic

Projects

B-Factor Prediction through Deep Learning
- Implemented linear models, RNNs, LSTMs, & transformers to predict B-Factor via protein sequences
- Trained model on 60,000+ sequences, achieving a Pearson Correlation of 81% (on par with SOTA models)

Machine Learning & Data Analysis of 40,000+ Chess Games
- Conducted an exploratory data analysis of 40k online chess games across 3 datasets
- Designed & implemented custom KNN model to predict player rankings, achieving a ~1% median error rate

LLM-Enhanced Video Game
- Created 3D Unity game with unique turn-based combat system, animations, & visual effects
- Integrated LLMs to create AI-driven NPC dialogue, combat options, & story lore

Leadership

The College Contemporary
Founder & Editor   ***March 2022 - Present***
- Led the creation of an intercollegiate magazine, with original website & print editions
- Recruited writers from Harvard Crimson, Stanford Daily, & 20+ other student publications
- Raised 5k in funding; reached 200k unique visitors via SEO & Google Ad Grants; published 80+ essays
- Managed & coordinated teams of writers, editors, & designers to release monthly publication cycles
- Organized independent trip to Kyiv, Ukraine to report on life during the Russia-Ukraine conflict

Skills

Languages / Libraries: Python, C++, C, JavaScript, Java, CSS, HTML, PHP, SQL, PyTorch, TensorFlow
AI/ ML: Transformers, Machine Learning, RNNs, LSTMs, BERT, Natural Language Processing, RAG
MLOps & Cloud: HuggingFace, Docker, Google Cloud, AWS, Git, Version Control
Web Development: Full-stack integration, UI/UX design, SEO, API Integration