

Blake Martin

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EXPERIENCE

Machine Learning Engineer

Feb. 2022 – Apr. 2024

AI Camp Incorporated

Owensboro, KY

- Engineered an XGBoost-based sales forecasting model in Python using Databricks, utilizing a fine-tuned GPT-3.5-turbo model for feature engineering to forecast sales 3 months ahead, increasing quarterly sales by 22%
- Deployed the aforementioned model to production using AWS Sagemaker
- Streamlined hiring by performing an EDA with spaCy and scikit-learn on instructor resumes to refine selection criteria, saving 10-hours per week hiring manager by reducing number of interviews by 55%
- Developed a FastAPI incorporating GPT-4 for automated analysis of video interviews from applicants, triggered via webhook upon submission, automating a manual review process previously taking hours

Machine Learning Intern

Aug. 2022 – Nov. 2022

AI Camp Incorporated

Owensboro, KY

- Guided a group of five underprivileged high schoolers in building a LangChain agent to generate personalized feedback on scholarship essays, assisting over 50 high school seniors in attaining over \$500K in scholarships
- Orchestrated an AirFlow DAG to scrape hundreds of award-winning scholarship application essays from websites like PrepScholar weekly, aggregating over 2000 essays stored in a Snowflake table
- Fine-tuned a GPT2LMHeadModel on scraped essays to generate proposed rewrites incorporating personalized feedback, deploying through a Gradio interface on HuggingFace

Machine Learning Research Assistant

Mar. 2021 – Apr. 2022

Brescia University

Owensboro, KY

- Designed an experiment to optimize agent performance in iOS games using Python, analyzing the impact of reward system design on an autonomous reinforcement learning agent trained for gameplay
- Developed and executed an experimental setup with PyTorch and NEAT, enabling training and data collection on 150 concurrently running RL models in under an hour
- Presented research at the National Conference on Undergraduate Research

PROJECTS

Techograms | Python, LlamaIndex, OpenAI

Feb. 2024 – Present

- Engineered a text-to-video app using Python and LlamaIndex, converting text prompts into animated videos
- Developed a custom animation engine using Manim, using LlamaIndex's SubQuestionQueryEngine to generate code for animations from text
- Showcased the capabilities of the app on LinkedIn, achieving over 100,000 views and attaining 1,500 users
- Secured acceptance into Microsoft for Startups Founders Hub, receiving a \$3,500 grant to fund development costs

EchoSearch | Python, Pinecone, S3, Streamlit, Heroku

Apr. 2024 – May 2024

- Developed an image recognition system to assist a charity in managing photos of missing children, using a Python-based deep learning library to generate face encodings
- Implemented image analysis to match or index photos in a Pinecone database based on face encodings
- Configured a system to store raw images in AWS S3 and built a Streamlit interface, deploying on Heroku

EDUCATION

Brescia University

Owensboro, KY

Bachelor of Science in Computer Science

TECHNICAL SKILLS

Languages: Python, SQL, Golang, Java, C++, C, PHP, Scala, JavaScript, TypeScript

Frameworks: Django, React, React Native, FastAPI, Flask, LangChain, LlamaIndex

Developer Tools: Azure, AWS, GCP, Spark, Hadoop, Databricks, Snowflake, Airflow, Docker, Kubernetes, Postman

Libraries: scikit-learn, ResNet, YOLO, OpenCV, GPT, LLaMA, BERT, PyTorch, TensorFlow, Keras, Pandas