MATEO TOPETE

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LinkedIn | GitHub | Personal Website

EDUCATION

BS Computer Science | University of California Irvine
Relevant courses include Data Structures, Principles of System Design, Analysis of Algorithms, Optimization, Projects in AI, and Data Mining

PROJECTS

Reinforcement Learning AI

In a team of 3, we developed an agent in minecraft using reinforcement learning. The model utilized Microsoft's MALMO environment for minecraft for gathering observation data and the RLlib API for the reinforcement learning algorithm. The agent was successfully trained using convolutional layers to augment the observation space along with careful tuning of the algorithm parameters.

Web Scraper + Search Engine

From scratch, I developed a multi-threaded web crawler in python that followed common best practices for "politeness" when visiting websites; indexing and parsing over 50,000 webpages. The search engine used the resulting index to return relevant ranked results in under 300ms.

Medical Chatbot

Using Meta Llama 2 as my LLM, the Hugging Face API, LangChain API, and Pinecone vector databases i created a chatbot able to answer questions from a medical textbook that i chunked and vectorized with Pinecone. The application was deployed with Flask from my local machine as well as temporarily through AWS cloud services.

CERTIFICATIONS

AWS Developer - Associate
A proctored exam offered by Amazon Web Services that tests for proficiency in core AWS services. Includes but is not limited to; AWS: IAM, DynamoDB, Lambda, VPC, S3, EC2, and Elastic Beanstalk

Machine Learning Engineering for Production (MLOps)
Covered beginner and intermediate MLOps concepts as well as offering guided labs and projects working with real production environments through Google Qwiklabs

DeepLearning.AI TensorFlow Developer

Focused on different neural networks and applications for TensorFlow Keras as well as data gathering/cleaning/augmenting techniques

SKILLS

- Python
- TensorFlow / Keras
- Pandas
- Jupyter Notebook
- MY SQL
- Git