PEDRO VENTUROTT

Machine Learning Engineer

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Location: Brazil (UTC-03)
Portfolio
GitHub
Medium
LinkedIn

SUMMARY

Self-taught Machine Learning Engineer with a passion for developing innovative ML solutions. Self-driven and independent learner with strong Python expertise. Particularly interested in applying ML technologies to Embedded Systems, Power Systems, Renewable Energy, NLP, and Computer Vision domains.

EXPERIENCE

ReflexAI **Remote**
Machine Learning Engineer *03/2024 - Present*

- Developed self-serve simulation product ecosystem, creating form-based interface for users to define simulation personas through structured questions, enabling automated simulation generation.
- Engineered LLM-powered natural language processing system using agentic approach that automatically populates persona creation forms from user prompts, exponentially increasing capacity to deliver simulations to customers.
- Implemented voice-based simulation capabilities by integrating third-party and self-hosted tools, designing and building the complete orchestration layer between Speech-to-Text (SST), Large Language Models (LLM), and Text-to-Speech (TTS) systems to deliver realistic voice interactions.

Quilt.ai **Remote**
Machine Learning Engineer *11/2021 - 03/2024*

- Spearheaded machine learning development initiatives, delivering advanced solutions in clustering, classification, vector embeddings, and text/image generation using Python ecosystem including NumPy, Scikit-Learn, PyTorch, HuggingFace, ChatGPT, and Llama.
- Architected and implemented comprehensive MLOps strategies to streamline ML solution deployment from development to production, optimizing models for efficiency and scalability through Docker, Kubernetes, AWS SageMaker, GCP Cloud Run, FastAPI, ONNX optimization, and model quantization.

Kerberos.io **Remote**
Part-Time Machine Learning Engineer *06/2021 - 11/2021*

- Developed NVIDIA GPU-accelerated Kubernetes infrastructure for computer vision workloads, implementing end-to-end object detection pipeline with reusable Kubeflow components for model training, inference, and monitoring using Prometheus and Grafana.

Freelancing **Remote**
Machine Learning Engineer *02/2021 - 06/2021*

- Delivered client-specific ML solutions across multiple projects, specializing in data preprocessing, time-series prediction, and recurrent neural network implementations.

EDUCATION

Federal University of Espirito Santo, Brazil
Bachelor of Science in Electrical Engineering **08/2010 - 08/2017**

Stanford University on Coursera
Machine Learning Course and Deep Learning Specialization **01/2019 - 03/2019**

TECHNICAL SKILLS

MLOps: SageMaker, Docker, Kubernetes, Kubeflow, Kafka, GCP, Prefect, Cloud Run, ONNX

Python: NumPy, Pandas, Scikit-Learn, StatsModels, LifeLines, sktime, TensorFlow, PyTorch, Matplotlib, Plotly, Flask, FastAPI

Machine Learning: Logistic/Linear Regression, SVM, Random Forest, Naive Bayes, KNN, K-Means, Time-Series ML, Deep Learning, NLP, Computer Vision

AI/LLM: Prompt Engineering, Text/Image Generation, Conversational AI, AI Agents

Data Engineering: Data Processing and Cleaning, Pipeline Development

Tools: Git, Jira

LANGUAGES

English Professional Proficiency

Portuguese Native

PROJECTS

NVIDIA GPU Kubernetes for Computer Vision | *GitHub*
- Developed comprehensive Kubernetes infrastructure leveraging NVIDIA GPU acceleration for computer vision workloads, implementing end-to-end ML pipelines with Kubeflow for scalable object detection in surveillance systems.

Vehicle Type Classification Using Simulated Trajectory Data | *GitHub*/*Medium*
- Developed machine learning model to classify vehicle types from simulated trajectory data, achieving an F1-Score of 0.87 through feature engineering and model optimization.

Music Genre Classification Using Waveform Features | *GitHub*/*Medium*
- Built classification system to categorize music into 10 genres using waveform feature extraction techniques, implementing signal processing algorithms to achieve 68.5% accuracy.

Character-level Short Text Generator | *GitHub*/*Medium*
- Created deep learning-based text generation system by scraping Star Wars Wikipedia content and training character-level recurrent neural network to generate contextually relevant short text.