Efthimios Vlahos

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Education

SUNY Stony Brook University — Stony Brook, NY
Master of Science in Applied Mathematics & Statistics, Concentration in Data Science — *Aug 2021 – May 2023*
GPA: *3.52/4.00*

- Relevant Coursework: Machine Learning, Big Data Analysis, Data Structures and Algorithms, Linear Programming, Probability Theory, Numerical Analysis

CUNY Hunter College — Manhattan, NY
Bachelor of Science in Mathematics & Physics, Minor in Computer Science — *Aug 2016 – Jun 2020*
GPA: *3.7/4.0*

- Relevant Coursework: Intermediate Mechanics, Quantum Mechanics, Linear Algebra, Abstract Algebra, Vector Calculus, Mathematical Analysis I & II

Work Experience

Microsoft — New York, NY
Data Analyst — *Nov 2023 – Present*

- Led the **design and implementation** of NLP models for AI content analysis, **boosting content accuracy by 40%** and enhancing trustworthiness across Microsoft's AI platforms.
- Directed data quality frameworks, ensuring **99.5% data integrity and accuracy**, and strategized with stakeholders, leading to a **25% increase** in AI solution efficiency.
- Utilized MLOps best practices to streamline model development cycles, **reducing deployment time by 30%** and ensuring robust, scalable deployment of AI applications.

KPMG — New York, NY
Data Analyst Intern — *Jun 2023 – Oct 2023*

- Orchestrated the creation and deployment of predictive models, leveraging machine learning to **enhance client data strategies by 35%** and provide actionable insights.
- Employed advanced NLP frameworks to interpret complex datasets, resulting in **20% more targeted customer engagement** and enhanced market analysis.
- Championed the adoption of MLOps methodologies, improving the lifecycle management of ML models and **accelerating time to insight by 50%** for business stakeholders.

Projects

2048 Game Deployment on AWS EKS-Fargate | *GitHub* (Kubernetes, Docker, AWS CLI, Eksctl)

- Managed **scalable deployment** of the 2048 game on AWS EKS-Fargate utilizing **Kubernetes orchestration** for enhanced cloud gaming experiences.

Alzheimer's Generative AI Project | *GitHub* (Python, TensorFlow, Keras, LSTM, GRU)

- **Developed several deep learning models** for Alzheimer's research, achieving 88.1% accuracy with LSTM and GRU networks.

Chest Cancer Detection | *GitHub* (Python, TensorFlow, MLflow, DagsHub, Docker, Flask, AWS)

- Implemented an ML diagnostic tool for chest cancer, achieving a **20% increase in accuracy** through integration with MLflow and DagsHub.

ChatBot Research Tool for Financial Insights | *GitHub* (LangChain, OpenAI, NLP)

- **Crafted an NLP-based ChatBot** for financial analytics, leveraging **LangChain and OpenAI** for real-time data-driven decisions.

SmartLift Analysis | *GitHub* (Python, PCA, Fourier Transformations, Random Forest)

- Engineered a Random Forest model for strength training analytics, achieving **98.51% accuracy** and a **5% miscount rate** in exercise classification and repetition counting from wristband sensor data.

Higgs Boson Particle Detection Project | *GitHub* (Deep Neural Networks, CERN LHC Data)

- Attained **99% precision** in detecting Higgs Boson particles with an ANN, exceeding benchmarks by **20%** via class balancing and Keras, boosting accuracy and robustness.

Technical Skills

Programming Languages: Python, R, MATLAB, C++, SQL, Java, Bash
Frameworks & Tools: TensorFlow, Keras, PyTorch, Scikit-Learn, JAX, Trax, NLTK, SpaCy, Hugging Face, Pandas, NumPy, SciPy, Statsmodels, Tableau, Power BI, Looker
Cloud Computing & Big Data: AWS (SageMaker, Lambda, EC2, S3, Redshift), GCP (Vertex AI, Dataproc, Dataflow, BigQuery), Azure, Apache (Spark, Beam, Kafka, Hadoop), Databricks, Snowflake, PostgreSQL, MySQL
DevOps & MLOps: Docker, Kubernetes, TFX, MLflow, Kubeflow, Airflow, DVC, Prometheus, Grafana, CI/CD, Jenkins, Terraform, GitHub Actions, FastAPI, Flask