Agustin Arias

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Buenos Aires, Argentina

Experience

Senior Devex Architect & AI Lead | *Python, LangGraph, and Graph Theory algorithms.* Oct. 2025 – Present
La Nacion *Buenos Aires, Argentina*

- Architectural Intelligence: Designed and implemented a TDA-based (Topological Data Analysis) engine to map code dependencies in a 2GB monolithic codebase, identifying critical modularization boundaries and accelerating migration velocity by 10x.
- Agentic Orchestration: Built multi-agent systems using LangGraph and PydanticAI to automate complex engineering workflows, including self-healing documentation pipelines across 200+ repositories.
- Modernization Leadership: Successfully leading the architectural transition of massive legacy systems into a modular, maintainable ecosystem using Applied Mathematics and AI.

Senior AI Engineer | *Python, PySpark, Kafka, LangChain* Oct. 2024 – Oct. 2025
Remitz *Remote*

- Scalable Architecture: Engineered and optimized large-scale ETL pipelines using PySpark and Kafka Streams to process complex medical datasets (EDI, HL7, CSV), significantly reducing ingestion latency.
- LLM-Powered Automation: Designed and deployed NLP systems leveraging GPT to automate medical claims analysis, transforming unstructured billing data into actionable insights and increasing processing throughput.
- Security & Compliance: Architected secure data handling protocols ensuring full HIPAA compliance, implementing OAuth 2.0 and SFTP integrations for privacy-preserving AI workflows.

Machine Learning Engineer | *Python, Pytorch, Tensorflow, Pyspark, SparkSQL* (1yr 4mo) Jul. 2023 – Oct. 2024
Revelen.ai *Buenos Aires, Argentina*

- Proficiently trained deep learning models in the field of computer vision, specializing in tasks such as instance segmentation, classification, and pattern recognition.
- Integrated transformer models from Hugging Face for advanced generative AI and content protection solutions.
- Executed data visualization and annotation processes through the utilization of a premium labeling tool, like Labelbox.
- Integrated LangChain and LlamaIndex to develop scalable AI applications, enhancing conversational AI capabilities.
- Leveraged Pinecone for efficient vector search and retrieval, significantly improving the performance of semantic search applications.
- Hands-on experience with transformer models, including GPT, and fine-tuning them for specific use cases.

Machine Learning Engineer | *Python, TensorFlow, Scikit-learn, PyTorch, Airflow* (1yr 8 mo) Dec. 2021 – Jul. 2023
Vairix - Nearshore Software Development Boutique *Montevideo, Uruguay*

- Designed and implemented generative AI pipelines for US-based clients, including applications in synthetic content creation and advanced analytics.
- Achieved a performance level 150% greater than peers, aiding colleagues with methods to boost productivity.
- Developed and deployed machine learning models using TensorFlow and PyTorch, improving data-driven decision-making for clients.
- Utilized AWS and Google Cloud platforms for scalable model deployment and distributed training.
- Employed FastAPI and Pydantic to create robust, scalable APIs for machine learning models.

Education

Master's in Mathematics Buenos Aires, Argentina
University of Buenos Aires (UBA) Aug. 2019 – Dec. 2024

Mechanical Engineering Buenos Aires, Argentina
Instituto Tecnológico de Buenos Aires (ITBA) Jan. 2016 – Dec. 2018

Technical Skills

AI & Multi-Agent Systems: LangGraph, PydanticAI, Multi-Agent Orchestration, RAG Architectures, Vertex AI.
Backend & Languages: Python (NumPy, Pandas, Scikit-learn), .NET (Roslyn API), C#, FastAPI, Pydantic.
Mathematics: Topological Data Analysis (TDA), Graph Theory, Optimization, Statistical Modeling.
Infrastructure & Cloud: AWS, Azure, GCP, Docker, Kafka, PySpark, Vector Databases (Pinecone, pgvector).