

Santiago Martínez Novoa

Systems and Computing Engineer

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EDUCATION

Universidad de los Andes <i>M.Sc. Information Engineering</i>	Bogotá, Colombia 2025 – 2026 (<i>To be conferred</i>)
Universidad de los Andes <i>B.Sc. Systems and Computing Engineering (Cum Laude), Minor in French</i>	Bogotá, Colombia 2021 – 2024

EXPERIENCE

LLM-Based Applications - Research Assistant <i>Universidad de los Andes</i>	2025-06 – Present <i>Bogotá, Colombia</i>
<ul style="list-style-type: none">Developed comprehensive master's-level LLM course using LangChain, LangGraph, and LangSmith frameworksImplemented RAGAS evaluation system to measure LLM application performance metrics	
Data Scientist - Graduate Research Assistant <i>Vice Dean's Office of Student Affairs, Universidad de los Andes</i>	2025-01 – Present <i>Bogotá, Colombia</i>
<ul style="list-style-type: none">Optimized ETL pipeline performance by 87% by migrating from Pandas to Polars, reducing processing time from 15 to 2 minutesDeveloped Power BI dashboards delivering actionable insights on student performance and institutional metricsReplaced external counseling platform, saving the university ~\$100K USD annuallyCo-implemented system alerting over 1000 critical student casesImplemented medallion architecture for standardized access to institutional data	
Generative Artificial Intelligence for Research - Research Assistant <i>Universidad de los Andes</i>	2025-01 – 2025-06 <i>Bogotá, Colombia</i>
<ul style="list-style-type: none">Built locally-deployed RAG systems using Ollama and Gemini API for domain-specific research questionsDesigned LLM evaluation architecture using Prometheus, BERT score and OpenAI API for response quality assessmentDeveloped custom AI agents to optimize university research processesAutomated student assessment using LLMs aligned with rubrics and expected answers	
Machine Learning Intern <i>Precia PPV S.A</i>	2024-08 – 2024-12 <i>Bogotá, Colombia</i>
<ul style="list-style-type: none">Developed MLP model reducing financial calculation time by 70% for client applicationsImplemented end-to-end AWS infrastructure with automated ETL pipelines using Glue and LambdaPresented our work on models and AWS infrastructure at Analytics Forum 2025	
Summer Research Intern <i>College of Computing and Information Science, Cornell University</i>	2024-06 – 2024-08 <i>Ithaca, United States</i>
<ul style="list-style-type: none">Designed Data Discovery architecture to explore and modify datasets in various formatsDeveloped upload and scoring system through semantic search across multiple databases	

TECHNICAL SKILLS

- Programming Languages:* Python, SQL, JavaScript, TypeScript
- Machine Learning & AI:* Scikit-learn, Keras, PyTorch, TensorFlow, Transformers, BERT
- LLM & Natural Language Processing:* LangChain, LangGraph, LangSmith, RAGAS, Ollama
- Data Processing:* Pandas, Polars, Databricks
- Cloud & DevOps:* AWS, Azure Functions, Azure Blob Storage
- Databases:* PostgreSQL, MongoDB, ChromaDB, Pinecone