

AREGNYS C. PAREDES GOMEZ

Senior AI / Machine Learning Engineer | LLMs & Generative AI | Secure Distributed Systems

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PROFESSIONAL SUMMARY

Senior AI Engineer with 14+ years of software engineering experience and 6+ years designing, training, fine-tuning, and deploying machine learning systems in production. Specializes in generative AI, LLM applications, multi-agent systems, NLP, computer vision, and MLOps, built on a strong foundation in full-stack development, networking, and cybersecurity gained delivering secure, high-throughput financial platforms. Works fluently across Python, TypeScript, Java, C/C++, and Rust. Brings a rigorous, evaluation-driven approach to model quality, from data curation and annotation standards through benchmarking and error analysis, and is seeking AI training and evaluation roles where deep engineering experience directly improves model performance, reliability, and safety.

TECHNICAL SKILLS

AI & Machine Learning: LLM Fine-tuning, Retrieval-Augmented Generation (RAG), Prompt Engineering, Multi-Agent Systems, NLP, Computer Vision, Deep Learning, Reinforcement Learning, Federated Learning, Neural Architecture Search, Recommendation Engines, Sentiment Analysis

Model Quality & Data: Model Evaluation & Benchmarking, Error Analysis, Data Labeling & Annotation, Annotation Guidelines, Data Quality Assurance, Feature Engineering

ML Frameworks & Libraries: PyTorch, TensorFlow, Hugging Face, scikit-learn, LangChain, OpenAI API, NumPy, Pandas, Matplotlib, Seaborn

Programming Languages: Python, TypeScript, JavaScript, Java, C, C++, Rust, C#, SQL

Backend & Cloud: Node.js, NestJS, Django, FastAPI, PostgreSQL, MongoDB, Redis, Docker, Kubernetes, AWS, Azure, GCP

Data Engineering: Data Pipelines, ETL/ELT, Kafka, RabbitMQ, Elasticsearch

Networking & Security: TCP/IP & Network Protocols, Network Architecture, Secure Coding, Authentication & Authorization (OAuth2/JWT), Encryption, Vulnerability Assessment & Remediation, AI Security (PII Redaction, Prompt-Injection Defense)

PROFESSIONAL EXPERIENCE

Senior AI / Software Engineer

Blackstraw AI

Oct 2022 - Present

Tampa, FL

Focus: Generative AI, multi-agent systems, MLOps, document intelligence

- Architect and deploy generative AI solutions for enterprise clients, integrating commercial and open-source LLMs (OpenAI API, Hugging Face) into production workflows using retrieval-augmented generation and structured prompting.
- Design multi-agent systems in LangChain that coordinate specialized agents for retrieval, extraction, validation, and summarization, with tool use, memory, and guardrails for reliable outputs.
- Build document intelligence pipelines that combine OCR, layout analysis, and LLM-based extraction to convert unstructured documents such as contracts, invoices, and forms into validated structured data.
- Fine-tune and evaluate LLMs on domain-specific datasets; create golden datasets, scoring rubrics, and automated regression tests to track accuracy, hallucination, and consistency across model and prompt versions.
- Lead data annotation and quality workflows, including labeling guidelines, reviewer calibration, and error analysis that feed targeted improvements back into training and evaluation data.
- Own MLOps for AI services: containerized model serving with Docker and Kubernetes on AWS and Azure, CI/CD for models and prompts, and monitoring for latency, cost, and model drift.
- Apply security best practices to AI systems, including PII redaction, role-based access control, and defenses against prompt injection and data leakage.

Machine Learning Engineer

NLP Logix

Jul 2020 - Aug 2022

Jacksonville, FL

Focus: Machine learning, NLP, computer vision, data science, AI engineering

- Developed and deployed NLP models for text classification, named entity recognition, and sentiment analysis using PyTorch, TensorFlow, and Hugging Face Transformers.
- Built computer vision models for image classification and object detection, handling dataset preparation, augmentation, training, and production deployment.
- Engineered end-to-end data pipelines and feature engineering workflows in Python and Pandas, with validation checks to ensure clean, consistent training data.
- Ran rigorous model evaluation using cross-validation, precision/recall and confusion-matrix analysis, and error analysis to guide model selection and retraining.
- Served models through FastAPI and Django microservices and translated client business problems into measurable ML objectives alongside data science and product teams.

Full-Stack Developer

Armada Labs

Mar 2016 - May 2020

Estero, FL

Focus: Financial software, lending, payments, digital banking

- Built full-stack features for digital banking and lending platforms using Node.js, NestJS, TypeScript, and PostgreSQL/MongoDB.
- Developed loan origination and servicing workflows, including application intake, underwriting rules, and repayment scheduling.
- Integrated payment processing and designed secure REST APIs with OAuth2/JWT authentication and encryption of sensitive financial data in transit and at rest.
- Implemented event-driven services with Kafka and RabbitMQ and Redis caching to improve reliability and responsiveness of transaction flows.
- Performed code reviews focused on secure coding and remediated vulnerabilities identified in security assessments.

Software Developer

EFX Financial Services

Feb 2012 - Jan 2016

Largo, FL

Focus: Transaction processing, proprietary financial software

- Developed and maintained high-throughput transaction processing components in C/C++ and Java for proprietary financial software.
- Built networked services over TCP/IP, including socket-level communication and message protocols between internal systems.
- Optimized performance through multithreading, memory management, and SQL query and stored-procedure tuning.
- Implemented security controls including encryption, authentication, and audit logging to protect financial transaction data.

EDUCATION

Bachelor of Science in Computer Science

University of Miami

2007 - 2011

Coral Gables, FL