

NELLIE CORDOVA

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SUMMARY

Software Engineer with a strong foundation in Machine Learning and AI. Built and evaluated ML and LLM-based systems (multimodal, RAG, agentic workflows) through graduate coursework and applied projects, with a production background in backend services, testing, and CI/CD. Focused on ML/LLM systems, evaluation-driven development, and reliable API-based deployment.

SKILLS

- **Languages:** Python (primary); Java, SQL (past production use); R, C++ (academic).
- **ML:** PyTorch, scikit-learn, pandas, NumPy, Transformers, RNNs/LSTMs, attention, language modeling.
- **GenAI/LLM systems:** RAG, structured prompting/outputs, basic guardrails & evaluation; LangChain, Ollama, OpenAI Agents SDK
- **MLOps / Systems:** FastAPI, REST APIs, Pydantic schemas, Docker, CI/CD (Jenkins, Maven), Linux, testing (JUnit, Cucumber).
- **Tools & Other:** Jupyter, Matplotlib, Postman, JMeter, IntelliJ, VS Code, JIRA, Bitbucket, Confluence; bilingual (English/Spanish)

PROJECTS

- **RAG Service with Guardrails:** FastAPI-based retrieval-augmented generation service over JSONL docs, combining hybrid search, structured prompting, self-checks, rule-based guardrails with typed Pydantic request/response contracts and evaluation of retrieval quality and citation correctness.
- **Plate2Recipe – Multimodal CV + NLP:** Co-developed end-to-end system mapping food images to structured recipes (PyTorch, Hugging Face). Handled dataset cleaning and evaluation of recipe coherence and ingredient coverage.
- **KV MemNet QA:** Implemented a PyTorch Key Value Memory Network over a structured KB with batched attention; generated synthetic templated QA with distractors and evaluated retrieval precision and answer accuracy.
- **Agentic AI Systems:** Hands-on projects applying agentic workflows (routing, tool use, parallel execution, structured outputs), emphasizing prompt design, lightweight evaluation, and deployable interfaces.
- **CRM & Ticketing Backend:** Dockerized FastAPI backend with clean APIs for tickets, users, and workflows; supports UI and LLM/agent integrations with schema validation, deployment readiness, and a Gradio interface.

PROFESSIONAL EXPERIENCE

Software Engineer | JPMorgan Chase & Co. | Tampa, FL

06/19 - 06/21

- Contributed across the SDLC for Java payment microservices on a Kafka-based real-time payments platform through production readiness.
- Authored runbooks and supported monitoring/alerting, improving triage and on-call handoffs.
- Coordinated with global teams on regulated releases, compiling test evidence & presenting services to production management.
- Built automated and functional/performance tests (JUnit, Cucumber, Postman, JMETER); upheld CI quality gates.
- Led and participated in agile ceremonies (sprint planning, backlog refinement).
- Delivered Salesforce CRM data-collection/reporting features end-to-end by expanding the data model (objects/fields/relationships), mapping updated schema into Visualforce UI, and automating survey creation with Flows.

ML Research Assistant | Computer Science Department | William Paterson University | Wayne, NJ

03/18 - 05/19

- Analyzed behavioral survey data in Python/R (EDA, feature engineering), defined predictive tasks/metrics, and compared models (KNN, logistic regression, clustering); presented findings to faculty and students.

EDUCATION

M.S., Computer Science (Machine Learning) | Georgia Institute of Technology | Atlanta, GA

09/22 - Present

Relevant Coursework: Deep Learning, NLP, Reinforcement Learning, Network Science, Computer Networks, Operating Systems, HCI.

B.A., Mathematics (Minor: Computer Science) | William Paterson University | Wayne, NJ

09/16 - 05/19

Honors: Magna Cum Laude | Pi Mu Epsilon (National Mathematics Honor Society)

CERTIFICATIONS

AWS Certified AI Practitioner | Amazon Web Services (2025-2028)

Group 2: Social/Behavioral Research | CITI Program (2024-2027)