

Paloma Valdes

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EDUCATION

University of Notre Dame

Bachelor of Science in Computer Science

- Dual Degree Engineering Program of Saint Mary's College

Notre Dame, IN

May 2028

Saint Mary's College | GPA: 3.81

Bachelor of Science in Computing and Applied Mathematics

- Honors and Awards: Lilly Endowment Scholarship, Kessler Scholarship

Notre Dame, IN

May 2027

EXPERIENCE

Aunalytics

Data Engineering Intern

South Bend, IN

Oct. 2025 - April 2026

- Built SQL queries and database scripts to extract, transform, and load data from multiple client systems into standardized data models for AI-driven analytics solutions
- Implemented data quality validation processes by identifying inconsistencies across client data sources and collaborating with senior engineers to resolve ETL pipeline issues

Extern

Outamation, AI-Powered Workflow Automation Extern

Remote

Aug. 2025 - Sept. 2025

- Engineered modular, cloud-based AI systems for mortgage document processing, integrating OCR, PDF parsing, and RAG to intelligently extract and classify data from 200+ page files
- Developed and evaluated RAG-based document retrieval system using distributed systems architecture, improving retrieval precision through chunk tuning and metadata filtering
- Benchmarked and optimized open-source LLMs for production deployment, implementing GPU-accelerated inference pipelines

Robotics & Computational Mathematics Lab

Researcher

Notre Dame, IN

Aug. 2023 - Present

- Configured SSH connections, file transfers, and remote system management for Raspberry Pi deployment in distributed sensing networks using Linux/Unix shell scripting
- Built Python-based analytics pipeline using OpenCV to process sensor data (light intensity, color reflectivity, motion) for autonomous vehicle simulation with 95% accuracy

PROJECTS

- **Fake Job Predictor** | *Python, Natural Language Toolkit, Flask, NumPy* July 2025
 - Developed production-ready ML model achieving 89.62% accuracy in detecting fraudulent job postings using Multinomial Naive Bayes algorithm on 17,880 data points
 - Implemented comprehensive data preprocessing pipeline and deployed user-facing Flask web application
- **VitaCare** | *Python, LangChain, Flask, Cohere LLM, Pinecone, Docker, AWS, CI/CD* July 2025
 - Created and deployed production-ready medical chatbot using Docker containerization, AWS cloud infrastructure, and automated CI/CD pipelines for scalable, maintainable architecture
 - Constructed semantic indexing system with Pinecone vector database and GPU-accelerated embedding models, efficiently retrieving medical data from 40,000+ text chunks with sub-second response times
- **Soccer Analysis with Computer Vision** | *Python, OpenCV, YOLOv8* June 2025
 - Engineered and trained YOLOv8 model on 600-image dataset for real-time player tracking and performance analytics with containerized deployment
 - Generated player/ball-identification markers and 3 kinds of real-time team statistics for data visualization and analytics that could be applied to diagnose team performance and professional game planning

LEADERSHIP AND ACTIVITIES

- **Society of Women Engineers (SWE)** | *Vice President, Saint Mary's College* Apr. 2025 - Present
- **First-Year Engineering Council** | *Member, University of Notre Dame* Sept. 2024 - May 2025
 - Oversaw 4 service events to serve South Bend community with a team of 5
 - Researched and corresponded with local organizations to coordinate volunteer opportunities for first year engineering students

TECHNICAL AND LANGUAGE SKILLS

Technical: MS Excel, MS Word, Python, HTML/CSS, MATLAB, SolidWorks, SQL, C, C++ **Languages:** Spanish