# Paloma Valdes

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## EDUCATION

**University of Notre Dame**                                                                                          **Notre Dame, IN**
*Bachelor of Science in Computer Science*                                                                          *May 2028*
- Dual Degree Engineering Program of Saint Mary's College

**Saint Mary's College | GPA: 3.79**                                                                                **Notre Dame, IN**
*Bachelor of Science in Computing and Applied Mathematics*                                                       *May 2027*
- Honors and Awards: Lilly Endowment Scholarship, Kessler Scholarship

## EXPERIENCE

**Super C. Concessions**                                                                                            **Michigan City, IN**
*Co-Manager*                                                                                     *Seasonal, May 2021 - June 2025*
- Leveraged Square analytics software to extract, analyze, and interpret financial data, informing key business decisions and optimizing operational strategies
- Conducted troubleshooting and diagnostic testing on hardware connectivity, identifying and resolving interface and system bugs to maintain critical business operations

## PROJECTS

- **Fake Job Predictor** | *Python, Natural Language Toolkit, Flask*                                              *July 2025*
  - Developed a Python machine learning model to predict fraudulent job postings from a dataset with 17,880 data points, achieving an 89.62% classification accuracy with the Multinomial Naive Bayes algorithm
  - Conducted comprehensive data processing, analysis, and visualization, and evaluated 2 machine learning algorithms to identify optimal prediction performance
- **VitaCare** | *Python, LangChain, Flask. Cohere LLM, Pinecone, Docker, AWS, Hugging Face*                      *July 2025*
  - Created and deployed medical chatbot with modular coding, API integration, and cloud platform deployment, allowing for scalability, a maintainable software architecture, and efficient version control with Git/GitHub
  - Constructed a knowledge base and semantic indexing system, leveraging vector databases and embedding models, to efficiently retrieve medical data from over 40,000 text chunks extracted from a medical encyclopedia
- **Soccer Analysis with Computer Vision** | *Python, OpenCV, YOLOv8*                                            *June 2025*
  - Engineered and trained AI/ML model with a 600 image dataset to analyze and predict player-movement and team performance from processing raw game footage
  - 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
- **Airplane Crash Data App** | *MATLAB*                                                                          *Apr. 2025*
  - Designed and developed a user-friendly desktop application tool for data visualization and plane safety analysis by integrating and filtering an airplane crash data set with 2,432 data points from 1960-2022
  - Utilized data structures, statistical analysis, software design, and data processing skills to identify trends and contributing factors that could be used for researchers and air traffic industry professionals

## LEADERSHIP AND ACTIVITIES

- **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
- **Undergraduate Mathematics Research** | *Research Assistant*, *Saint Mary's College*                          *Jan. - May 2024*
  - Collaborated with a team of 4 to analytically approach modern graph theory problems and write proofs to be published in a final report
  - Carried out meetings and effectively presented mathematical findings to team members for 12 weeks
- **Robotics & Computational Mathematics Lab** | Lab *Member*, *Saint Mary's College*                            *Aug. 2023 - Present*
  - Implemented Terminal and command line shell to establish SSH connections with Raspberry Pi, configure its operating system, transfer files, and interface Raspberry Pi with light sensor and webcam.
  - Analyzed real-time sensor data (light intensity, color reflectivity, motion) with OpenCV and Python to identify traffic patterns and environmental influences for autonomous vehicle simulation.

## TECHNICAL AND LANGUAGE SKILLS

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