

## 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. 2024 - 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:** Excel, Word, PowerPoint, MatLab, Python, HTML/CSS,, SolidWorks, SQL, C, C++ **Languages:** Spanish