

Genesis Argueta

(714)-472-3950 | gargueta@nd.edu | www.linkedin.com/in/genesis-argueta

EDUCATION

University of Notre Dame | Notre Dame, IN May 2026

Mary E. Galvin Scholar and Fighting Irish Scholar

Major: Computer Science and Mathematics

Relevant Coursework: Theory of Computing, Discrete Mathematics, Data Structures, Computer Architecture, Operating Systems, Intro. to Linear Algebra & Differential Equations, Coding Theory

Summer Engineering in London | London, UK July 2023 – August 2023

WORK EXPERIENCE

Computer Vision Research Lab | Notre Dame, IN September 2023 - Present

Undergraduate Research Assistant

- Developed **Python** scripts to optimize preprocessing for large datasets using **DLIB's facial recognition models**, organizing images by subject.
- Built a web application using **Flask, JavaScript, HTML**, and **CSS** to capture live recordings, ensuring unique user identification with cookies, and transmitting data to the server.
- Conducted experiments to compare accuracy scores between different facial angles, utilizing **ArcFace, Img2Pose**, and **PyTorch**, and managed environments with **Anaconda**.
- Created new datasets with identity-disjoint folds for cross-validation, using LFW, CPLFW, CALFW, CFP-FP, and AgeDB-30 datasets.

ASCEND | Notre Dame, IN January 2024 – July 2024

Coach/Undergraduate Teaching Assistant

- Led bi-weekly Zoom tutorials to guide students through applied math challenges and pre-calculus concepts.
- Mentored and supported 4-5 incoming freshmen in their transition to college life at Notre Dame through regular team and 1-on-1 sessions.
- Assisted with practice problems during weekly 105-minute Calculus II tutorial.
- Held office hours for exam preparations and homework help.

Ethical and Professional Issues Research Lab | Notre Dame, IN March 2023 – May 2024

Undergraduate Research Assistant

- Conducted human-computer interaction research to design technology-driven solutions that support youth and marginalized communities.
- Interviewed over 20 families and examined the relationship between social media and Latino families.

LEADERSHIP AND ACTIVITIES

Fighting Irish Scholar Mentor | Notre Dame, IN September 2023 – Present

- Provided guidance in academics, professional development, and social life to empower first-generation and low-income mentees to succeed in college.

CS4Good DePaul Coding Club | Notre Dame, IN September 2023 - Present

- Taught **Python** weekly to youth ages 8 to 14 with a history of trauma needs.

RELATED COURSEWORK OR PROJECTS

MeowNet July 2024

- Developed a **convolutional neural network** model in **PyTorch** for classifying 12 cat breeds with a 91% accuracy utilizing custom dataset.

Credit Card Fraud Detection Model June 2024

- Designed five **machine learning** models in **Python** focusing on fraud detection achieving a minimum accuracy of 95%.
- Implemented data processing techniques such as normalization and address class imbalances.

LanguageLink | University of Notre Dame April 2024

- Developed an authentic language learning web with a team at Hesburgh Hackathon.
- Utilized **React, JavaScript, HTML, CSS** for frontend development.
- Leveraged OpenAI **API** to make a customized chatbot for language learning.

TECHNICAL AND LANGUAGE SKILLS

Programming Languages: Proficient in Python, C, MATLAB, JavaScript, HTML, CSS

Misc: Proficient in SolidWorks, Linux/Unix, Git, Shell Scripting, React, TensorFlow, Flask, PyTorch, SQL