Gabriela Ivonne Lopez-Salgado

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EDUCATION

The University of Michigan **Ann Arbor, MI**

Bachelor of Science in Engineering in Computer Science *Expected Graduation Date: December 2026*

Academic Awards: 3 Center for Education of Women+ (CEW+) Scholarships, Engineering Scholarship of Honor, Special Engineering Student Scholarship, LEAD Scholarship, Victors Scholarship, and Jack Kent Cooke Foundation Scholarship Semi-Finalist (top 8%)

TECHNICAL EXPERIENCE

Engineer Intern | The Boeing Company June 2024 – Present

- Automated Onboard Performance Tool (OPT) value analysis comparing real-world with OPT calculated taxi, takeoff, and landing performance data and expanded functionality to include engine degradation using the assumed temperature method.
- Streamlined legacy code by integrating MATLAB and C++ into a cohesive executable, enhancing user experience and operational efficiency, highlighting potential cost savings to airlines using OPT.
- Conducted comprehensive testing for the iOS OPT application, ensuring compatibility with the Onboard Network Server (ONS) systems installed on 777X and 787 aircraft, to confirm its reliability for operational use.
- Tested the Class 3 Electronic Flight Bag (EFB) application installed on embedded cockpit systems to validate its performance.
- Evaluated the functionality of RouteSync API via ACARS to ensure accurate and efficient transmission of performance data.
- Led a team in designing improvements for 777 and 787 economy seats by conducting market research and consulting subject matter experts (SMEs), refining the problem scope for better sleeping comfort on long-haul flights.
- Developed a business plan to replace subset of economy seats with FAA-compliant sleeping pods, presenting to key leaders a projection of $1.9M to $14M in annual revenue per aircraft through competitive pricing and market differentiation.

Test Engineer Intern | Cummins June 2023 – August 2023

- Supported software implementation of a new transfer switch mechanism to an existing control by developing flow diagrams to visually represent power transfer processes in the transfer switch.
- Tested system flow on existing transfer switch hardware while tracking input and output signals to the control to understand and validate operation of the mechanism.
- Led efforts to recreate a software change request issue and defined the problem statement while collaborating with SMEs.
- Tested on a Hardware-In-Loop (HIL) test fixture, recommended and implemented a solution based on testing results, using MATLAB Simulink to resolve the transfer switch control's load shed feature for a signal processing and timer issue.

iOS Developer | Apple Developer Academy May 2023 – June 2023

- Led a team in researching 60 recipes, 100+ workouts, and 20 selections of general advice in 10 hours for storing in a database.
- Developed a mobile iOS app in, ~70 hours, with an assistive feature to achieve a user's personalized nutritional and workout goals.

Independent Researcher December 2022 – April 2023

- Built and deployed an embedded system used to study vibrations and temperature in concrete, as well as the effects of collecting data with epoxy-coated electronic components which proved that epoxy-coating has a minimal effect on that data's accuracy.
- Analyzed and measured the compressive and flexural strength of concrete slabs with different reinforcement material, and discovered a material passing state specifications, being less laborious, and costing ~15% the cost of the material used in industry.

Research Assistant | Michigan Robotics Department December 2021 – April 2022

- Investigated and designed a digital LED matrix alarm clock with an implemented FM radio, by creating an embedded system with an Arduino, LM386 amplifier, speaker, and button UI to allow setting alarms and time, monitoring the volume and station played.

LEADERSHIP EXPERIENCE

President | Society of Hispanic Professional Engineers May 2024 – Present

Vice President of External Affairs | Society of Hispanic Professional Engineers May 2022 – May 2024

- Co-devised the 2023 and 2024 SHPE'd Abroad program to teach engineering aspects to 150 K-12 grade students and how to use computers and Microsoft programs to 60 20-60 year old students, with 18 personally designed lessons for 53 instruction hours.
- Managed and oversaw $35,650 in fundraising to sponsor 32 members for SHPE'd Abroad at Costa Rica and Dominican Republic.
- Founded and produced 6 Spotify podcast sessions and YouTube videos interviewing SHPE-UM alumni to strengthen our alumni network and speak about topics involving graduate school, life as an engineer, and imposters syndrome.

SKILLS

Technical Skills: C++, C, R, Swift, HTML, JavaScript, CSS, Mobile App Development, Data Structures, Embedded Systems, Electronic Circuit Design, AWS (ADO & Jira), MATLAB, Simulink (beginner), Soldering, Surface Mount Soldering, and Concrete Paving/Testing.
Languages: Fluent in Spanish and English.