Eric Nieto Gonzalez

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Education:

University of Illinois at Urbana-Champaign — Grainger College of Engineering

- M.S. in Electrical Engineering — Expected Graduation: May 2027
  - GPA: 4.0 / 4.0
- B.S. in Electrical Engineering — August 2020 → May 2025
  - GPA: 3.55 / 4.0

Work Experience:

Research Intern at Sandia National Laboratories — May 2025 → August 2025

- Used Nanoscribe Quantum X 2PP to fabricate 3D nanostructures with <200 nm resolution
- Operated E-beam evaporator (Temescal FCS2000) to deposit metals with <5 nm thickness
- Utilized SEM for nanostructure characterization and process validation
- Trained in cleanroom wet bench protocols (acid, solvent, base)

Soft Robotics Research Assistant at the University of Illinois Urbana-Champaign — January 2024 → May 2025

- Created a microgripper with <10 μm diameter for potential human vein procedures and studies
- Applied 2.5D Topology optimization to create an efficient gripper with minimal material
- Developed 3 alternate innovative medical microtools to enhance versatility in applications

Manufacturing Engineering Intern at G&W Electric Co. — May 2024 → August 2024

- Designed custom tools that improved manufacturing efficiency by 40%
- Proficient in industry engineering documentation, including product and electrical schematics
- Coordinated with 12 employees across all specialties to collect input for project development

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Leadership Roles:

Academic Redshirts in Science & Engineering (ARISE) Student Board Member — January 2023 → Present

- Cooperated with coordinators to resolve issues and implement program improvements
- Mentored younger students to guide their academic journey and improve their performance
- Organized and led social events to foster networking opportunities tailored to ARISE students

Society of Hispanic Professional Engineers (SHPE) — January 2022 → Present

- Planned and hosted social events for undergraduates within engineering to create connections
- Communicated details of all social events thoroughly to all target groups in an effective manner

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Projects:

Nanoscale Semiconductor Devices and Simulation — January 2025 → May 2025

- Studied nanoscale semiconductor properties and carbon nanomaterials
- Gained hands-on experience with nanofabrication techniques within a cleanroom

Advanced Optoelectronic Device Characterization — January 2025 → May 2025

- Explored energy conversion devices for LEDs and solar cells
- Analyzed heterostructures and low-dimensional quantum structures for modern devices
- Characterized LEDs and solar cells using TCAD simulations for electrical and optical modeling

Integrated Circuit Wafer Fabrication and Testing — August 2024 → December 2024

- Fabricated semiconductor devices using photolithography, diffusion, and etching techniques
- Developed cleanroom skills to produce functioning MOS transistors and diodes
- Conducted device testing to ensure functionality, identify defects, and validate the design.
- Analyzed process parameters to refine microfabrication techniques and improve device yield.

Developed SNES Street Fighter 2 using System Verilog — April 2023 → May 2023

- Coded modules in System Verilog which handle multiple sections of the game simultaneously
- Numerous modules created to make it more efficient to debug, understand, and improve
- Drivers integrated to receive keyboard signals and send out VGA signals within the board
- Wrote a thorough, concise, and formal lab report relating to the specific details of the game

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Skills:

- PCB Design, KiCad
- System Verilog, HDL
- C Language
- MATLAB
- PTC Creo / SolidWorks
- Seal of Biliteracy in Spanish & English

Awards:

- UIUC Knight of St. Patrick's Awardee
- Intel Scholar
- ILLCF Scholarship Recipient
- Hispanic Scholarship Fund Recipient
- HRP Scholarship Recipient
- Wentcher Scholarship Recipient