

DAVID ALEJANDRO BARON-VEGA

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Objective

To secure an exciting and challenging role as an engineer, where I can leverage my technical skills, strong work ethic, and passion for continuous learning to contribute to collaborative projects that drive innovation and create meaningful, positive change.

Education

B.S. in Electrical and Computer Engineering – Wayne State University / May 2024

- GPA – 3.5, Irvin D. Reid Honors College Member
- Academic Scholarship Recipient

Associate of Science - Oakland Community College / April 2022

- GPA – 3.6, Dean's List

Technical Skills Profile

- Software/Languages: ASM, Altium, Blender, C/C#/C++, Cadence Tools, Excel, EasyEDA, HTML, JavaScript, LaTeX, Linux, MATLAB, Python, ROS, Siemens NX, Simulink, SolidWorks, Ubuntu, Unity, Verilog (MIPS Architecture).
- Experienced in 3D and VR modeling/animation, PCB design, integrated system development, semiconductor microfabrication.
- Microcontroller and FPGA programming/design experience.
- Working knowledge of ROS development for autonomous robotics simulations.
- Experience in COMSOL Multiphysics simulation software for material science and EMC applications.
- Fluent Spanish speaker and writer.

Relevant Projects and Coursework:

- PID control systems, integrated systems for automobiles, statistical modeling/predictive analytics, E-M compatibility research, RF circuit design, PCB design, linear and non-linear circuit synthesis.
- Communication Theory, Control Systems I, Computer Architecture, Linear Systems and Signal Processing

Experience

Wayne University: Department of Electrical and Computer Engineering

Embedded Systems Researcher: COIL Project Team Member / March 2023 – September 2023

- Designed a custom PCB for an automobile's safety and passenger identification integrated system, addressing performance and reliability needs.
- Conducted comprehensive testing and validation processes, ensuring the hardware and software met industry standards and functional specifications.
- Collaborated with an international, interdisciplinary team to integrate and deploy the embedded system into a larger automotive design.

Wayne State University: Department of Mathematics

Undergraduate Researcher / September 2021 – December 2022

- Discovered 2 novel representations of B3 braid groups (topological surfaces), under the supervision of Dr. Andrew Salch, alongside two fellow students.
- Utilized MATLAB software to perform data-intensive analytical and numerical computations.
- Implemented single-value decomposition and eigenvalue decomposition algorithms to approach answers while reducing computer roundoff error.

Affiliations and Awards

- American Chemical Society – 2021/2022 Outstanding Volunteer Award Recipient
- Institute of Electrical and Electronics Engineers
- Wayne State University Robotics Team