

# Antonio Ristevski

(586) 229-9535 | antonioristevsk@oakland.edu

## CAREER FOCUS

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Dedicated and driven engineer focused on building a career in FPGA design and embedded systems. Experienced in Controller Area Network (CAN) protocol, microcontroller programming, and project management.

## EXPERIENCE

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### Formula SAE Electrical Director

May 2024 – Present

- Integrated **30+** sensors into the data acquisition system, strengthening validation capabilities and providing essential data for informed engineering decisions.
- Directed the execution of **40+** projects across various stages and priorities, ensuring timely completion of all critical electrical subsystem components while implementing innovative improvements over previous designs.
- Collaborated with industry leaders in motorsports to elevate the team's technical expertise and drive innovation.
- Managed a **\$7,500** budget for the electrical subsystem, ensuring cost-effective solutions while upholding high performance and reliability standards.

### Formula SAE Software and Data Lead

May 2023 – May 2024

- Increased data collection efficiency by **52%**, reducing driver wait time and optimizing track performance.
- Led a team of **5+** engineers in developing data analysis software to streamline the processing and manipulation of CSV files for improved data usability.

## WORK EXPERIENCE

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### High-Performance Hardware Intern, *Intrepid Control Systems*

May 2024- August 2024

- Debugged software issues in new product lines and implemented solutions to ensure on-time product release.
- Developed and tested new product features in response to consumer requirements, ensuring customer satisfaction.
- Developed C code on a Zynq 5000 microcontroller.

## PROJECTS

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### Sponsorship Presentation

- Secured **\$15,000** in funding by presenting to a potential sponsor, alleviating financial pressure, and enabling further investments in performance and outreach initiatives.

### Radio Lap Timer

- Implemented radio telemetry to communicate between three HCS12 Dragon 12 boards for tracking vehicle times.
- Designed a lap timer PCB to optimize space, incorporate a power management controller, and reduce overall manufacturing costs.

### Engine Dyno Harness 3D Design, 2D Design, and Layup

- Completed **10+** iterations of 3D harness designs to optimize wire layout, lengths, and splice points.
- Performed wire gauge calculations based on voltage drop percentage and current calculations.

### Neural network on an FPGA.

- Developed a 4, 3, 1 neural network with 4 inputs and 1 output. Designed **40+** components for the FPGA circuit.

### Pressure Transducer Testbench

- Designed and manufactured a test bench to compare new pressure transducers against a standard with an accuracy of  $\pm 0.5$  PSI.
- Utilized the testbench to validate existing data and sensors ensuring vehicle pressure data is accurate to  $\pm 0.75$  PSI.

### Power Distribution Module

- Developed a power distribution module to manage the electrical systems of the vehicle.
- Currently integrating the module into a PCB to enable PWM control of fans and the fuel pump, along with current monitoring for all power components and battery power.

## EDUCATION

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**Bachelor of Science in Engineering, Computer Engineering**  
*Oakland University, Rochester MI*

**GPA: 3.76**  
*Expected Graduation December 2025*

## TECHNICAL SKILLS

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- Software: Power BI | SolidWorks | PE3 Monitor | Git | Race Render | Catia V5 | ESP-IDF | Vehicle Spy | Vitis
- Programming Languages: VHDL | C/C++ | MATLAB
- Other: CAN Protocol | UART | Multimeters | Oscilloscopes | Function Generators | Electrical Proficiency