

# Ryan Donnellan

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Portfolio: [www.rad-electronics.com](http://www.rad-electronics.com)

## Education

**Rensselaer Polytechnic Institute** / Troy, NY

August 2020 – May 2025

Master of Science in Electrical Engineering / GPA: 3.54

Bachelor of Science in Electrical Engineering / GPA: 3.69

*Technical Courses:* Advanced Computer Architecture, Computer Hardware Design, Embedded Control, Fields & Waves, IC Fabrication Lab, IC Proc. & Design, VLSI Design.

*Honors/Certifications:* B.S. Cum Laude, RPI CMDIS Cleanroom Certification.

## Skills

Proficient in Altium, LTSpice, Microsoft Office, Python. Experienced in C, Cadence Virtuoso, Fusion 360, MATLAB, Quartus, Siemens NX, System Verilog, VHDL, Xilinx Vivado.

## Experience

**Hardware Engineer Intern**

June 2023 – August 2023

*Rockstar Games / Santa Monica, CA*

June 2022 – August 2022

- Researched and developed methods for logging performance capture data through programming embedded systems.
- Designed and constructed custom hardware and user interfaces to quicken setup and calibration for performance capture equipment.
- Collaborated with co-workers to troubleshoot, repair and conduct experiments on electronic equipment.

**Undergraduate Student Assistant**

January 2023 – May 2023

*Rensselaer Polytechnic Institute / Troy, NY*

January 2022 – May 2022

- Assisted the professor with classroom and lab preparation, along with the setup of lab equipment for the class ECSE-2610 – Computer Components and Operations.
- Instructed students in circuit building with Digital ICs and the fundamentals of FPGA programming with VHDL during office hours and weekly lab sections.
- Mentored students in diagnosing issues with designing for FPGAs in Xilinx Vivado.

**Room Manager**

November 2021 – May 2022

*The Forge@RPI / Troy, NY*

- Monitored daily facility operations, including safety procedures and equipment maintenance, to ensure that all members obtained equal access to the space.
- Diagnosed pop-up issues and implemented repair solutions for 3D printers.
- Trained new volunteers on machine usage and operational policies.

## Projects

**Pinball Machine** (C/C++, Altium Designer, Fusion 360)

- Engineered a custom pinball machine based on the 1990s Williams widebody design for my Master's project.
- Designed, soldered, and wired a total of six custom PCB designs, enabling full cabinet and playfield functionality.
- Programmed seven devices to manage game states, a matrix display, dynamic playfield lighting and audio mixing, while facilitating communication between devices via USB/UART and I2C.

**Miscellaneous Coding Projects** (Python, C/C++)

- A collection of various small coding projects that I have programmed in my free time since 2021, ranging from a terminal-ran baseball simulator to random "language" creation with phonemes.