

SHANE RYAN

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www.ShaneRyan.me

EDUCATION

University of Notre Dame

B.S. Electrical Engineering, College of Engineering

Concentration in Semiconductors and Nanotechnology

B.S. Physics, College of Science

- **Trustey Family STEM Merit Scholar** (\$100,000 for 6 students)
- Selected for Notre Dame Engineering Honors Program

Notre Dame, IN

August 2014 – May 2018

GPA: 3.42/4.0

August 2014 – May 2018

SAT: 2310 (Perfect Math)

ACT: 35 (36 Math, Science)

EXPERIENCE

Notre Dame Nuclear Science Lab

Research Intern

Notre Dame, IN

May 2015 – January 2016

- Designed, built, and maintained high-voltage electronic power systems
- Analyzed and processed data for publication, worked in a high-risk environment
- Co-authored a scientific publication: *Experimental Investigation of the Repelling Force from RF Carpets*

Notre Dame NASA Rocketry Team

Communications Squad Leader, Control Payload Engineer

Notre Dame, IN

Fall 2014 - Present

- Created main electronics payload for data collection, system monitoring, and communication via HAM radio
- Programmed an Automated Air-Braking Payload for apogee control using a PIC24 via PID in real-time with C
- Delegated work to complete squad tasks and managed team members

Notre Dame Optoelectronics and Photonics Lab

Research Intern

Notre Dame, IN

January 2016 – present

- Studied high-power semiconductor laser devices in a related graduate-level course
- Repaired and characterized a Class III water-cooled gas laser

HONORS & AWARDS

- Class Valedictorian, Perfect GPA, Varsity Football Captain, Highest GPA in district
- National Merit Finalist, National AP Scholar with Distinction
- Notre Dame Reilly Scholar (Top 100 Applicants Worldwide)
- F.I.R.S.T. Robotics World Champions, Wildstangs

Prospect High School, 2014

The College Board, 2014

Notre Dame, 2014

Rolling Meadows, 2011

RECENT PROJECT EXPERIENCE

Internet-Connected Coffee Maker

Fall 2015

- Reverse-Engineered coffee machine, automated brewing process, connected to end user via internet (IoT, ATmega)

ATmega Lighting Control System

Summer 2015

- Designed custom embedded system to perform a FFT on an audio signal via DSP, log data, and control lights in real-time

Arch Linux SnapChat Group Server

Winter 2015/16

- Developed intelligent SnapChat PHP service to filter, save, and consolidate multiple users media

3D Printed Drone

Spring 2015

- Created palm-sized frame in SolidWorks, assembled custom electronics and flight controller, 3D printed frame

SKILLS

- Proficient in C, knowledgeable in Assembly for PIC24 and PIC18 series, FPGA usage, C++, Unix Shell, Verilog, Python
- Competent with electronic hardware, schematics, and PCB design, standard CAD design in EAGLE, SolidWorks, Creo
- Relevant coursework in Embedded Systems, Thermodynamics, Logic Design, Electronics, Electric Circuits, Photonics