Robert C. Crimmins

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PROFESSIONAL EXPERIENCE:

nVent – Staff R&D Engineer, Tucson, AZ **May 2023 – Present**

- Architected nVent's first DC Switched & Metered iPDU- a modular solution for datacenter and telecom markets
- Delivered prototypes in 87 days with custom PCB and ME design, securing $1M revenue in FY25 at 66% margin
- Drove global EE/ME/SW/MFG integration to design, certify, and deploy solutions across nVent business units
- Engineered schedule acceleration through strategic execution and deep cross-domain technical insight
- Provided power & cooling market intelligence and roadmap to C-Suite after OCP, GTC, SC, DCD conferences

Argo AI – Hardware Engineer, Princeton, NJ **October 2021 – January 2023**

- Executed end-to-end development of Argo Lidar, our purpose-built LiDAR platform for autonomy
- Designed hardware and software solutions for bringing up, calibrating, testing, and debugging vehicle sensors
- Triaged and resolved issues with current and legacy sensors on autonomous vehicles using root cause analysis
- Scaled prototype designs to volume production with global contract manufacturers and suppliers
- Worked cross-functionally between engineering teams, TPMs, customers, OEM partners, CMs, and suppliers

Raytheon Technologies – Electrical Engineer, Princeton, NJ **February 2020 – October 2021**

- Designed time-of-flight, low-power, small form factor, short wave infrared sensors and camera systems
- Streamlined performance and reliability testing of products by automating data ingress, parsing, and trend plotting
- Unified a modular and scalable HW/SW/FW solution to ensure proper assembly of our products at suppliers
- Tested and validated camera systems to ensure compliance with customer interface control documents (ICDs)
- Developed electrical equipment for evaluating and characterizing readout integrated circuits (ROICs)

Tesla, Inc. – Hardware Technology Engineer Intern, Palo Alto, CA **August 2017 – January 2018**

- Integrated a high-performance decentralized power-distribution and communication architecture for Cybertruck
- Presented platform, roadmap, plans, resource allocation, and production methods to executive leadership
- Implemented significant cost reduction methods within vehicle platform and assembly

SpaceX – Avionics Integration Engineer Intern, Los Angeles, CA **August 2016 – January 2017**

- Developed and integrated improved Falcon 9 and Falcon Heavy avionics hardware architecture
- Built and tested hardware-in-the-loop test racks to validate flight hardware via simulation
- Designed NI PXIe data acquisition PCBAs throughout production floor for vehicle sensor testing
- Deployed onshore and offshore landing pad hardware for post-mission vehicle operations

EDUCATION:

Worcester Polytechnic Institute

- Master of Science: Electrical and Computer Engineering — December 2018
- Bachelor of Science: Electrical and Computer Engineering — May 2016
- Bachelor of Science: Robotics Engineering — May 2016

SKILLS:

Hardware:	Xilinx Zynq MPSoC, Altera Cyclone V, PolarFire SoC, ARM Cortex M-Series, MSP430, Arduino
Software:	C, C++, Python, Java, MATLAB, Assembly, ROS, HTML, CSS
FPGA:	Embedded Systems, RTOS, Verilog, VHDL, Logic Synthesis, Simulation, Testable Design
Applications:	Altium PCB, PADS, Zuken E3, Visio, Multisim, Subversion, NX, CATIA, SharePoint, AutoCAD

PROJECTS:

Autonomous Vehicle:	Integrated localization, perception, mapping, path-planning, control, and power systems on an EV
Sensor Calibration:	Utilized edge detection to calibrate time-of-flight and visible cameras and incorporated into ROS
Path Planning:	Implemented navigation algorithms: A* with heuristics, Drunkard's Walk, BFS, DFS
Robot Platforms:	Unified actuators, sensors, feedback, signal processing, and networks for various platforms
Robotic Arms:	Developed control software for light assembly line manufacturing using a Dobot robotic arm
Networks:	Implemented networks with fault tolerant data arrays, scripting, automation, and virtual machines