Max Pfeiffer

University of Washington B.S. Electrical & Computer Engineering 2018 - 3.7 GPA

Professional

Tesla - Truck - Mechatronics Engineering Intern

May - Dec 2017

- Electric motor design, AC perminant magnet, oil cooled
- Pneumatic and hyrdaulic system design, integration and firmware dev.
- Prototype wiring harness and component design and integration
- High-voltage distrubution system, >1MW
- Battery manufacturing equipment design and fabrication at Gigafactory 1

Tesla - Electrical Engineering Intern

Feb - May 2017

- High-speed, automotive connector design for flat-flexible coaxial cable
- Robotic electrical harness installation using computer vision
- PCBA validation and EMI testing and debugging for BLDC motor driver

uWashington Hyperloop - Director

Jan 2016 - Feb 2017

- $25k project, 30+ members winning 6th place in SpaceX competition
- Developed electrical and controls and sensor system architecture
- Design & build 2kW electric power train - Lithium batteries and DC motors
- Sheetmetal design, soft tooling and composites manufacturing

Leviton - Electrical Engineering Intern

Jun - Oct 2016

- Production QA testing procedure development, fixture design and assembly
- SMT PCB Milling, Laser Cutting, Injection Molding and 3D Printing
- 1GHz network cable test component design using Ansys' HFSS

Clay Animation Network - Engineering Intern

Jun 2013 - Sept 2015

- Design marketable classroom animation equipment for kids 6-14
- Manufacturing engineering processes for modular parts and assembelies
- Assist in business development, web design and curriculum

University of Washington - EE DFA Instructor

Sept 2014 - Sept 2017

- Teach first year Electrical Engineering students about EE and the UW
- Create curriculum, managing a classroom, grading assignments
- Hold soldering workshops and fieldtrips for hands on learning

Sail Sand Point - Rental Program Manager

Jun 2014 - Oct 2015

- Program development, overseeing operations, hiring and managing staff
- Equipment and facilities maitenence, composite and, marine engine repair
- Sailing instruction, groups of 10-30 ages 5-85+

Memorable Music - Owner Operator

2012 - 2017

- Audio and lighting system rentals for 400+ person events
- Web design, business management and client services
- Automated lighting system design, DMX programming, audio equip. repair

Proficient

Electronics Engineering

PCB Design - with PADS, Altium, Eagle. PCB printing & milling w/ Gerber 274x, population & validation
Power Systems - Polyphase AC, High-Voltage DC, battery systems, electric drives and converters
Wireharness Design - wiring schematic design, mechanical routing, construction and installation
Simulation Software - Ansys Maxwell & HFSS, LabView, Spice, MatLab, Multisim, Modelsim

Embedded Computing

Programming - Python, C, Java, Verilog, HTML
Serial Communication - CAN, LIN, UART, hardware and software implimentation & debugging
FPGA - programming in Verilog, processor and state-machine design
Microcontrollers - PICs, Pis, Arduinos basic firmware programming
IC Integeration - BMS & battery backup PCB design and construction

Mechanical Design

CAD - Solidworks, CATIA V5, AutoCAD, Rhino
Rotary Mechanics - rotational power transfer, belt drives, bearing assembelies, clutches, sealed systems
Fluid Systems - compressed gas and hydraulic system design and plumbing
Structures - bent sheet-metal and extrusion based structural design for vehicles and hoists
Composites - tool design, carbon and glass layup and finishing for marine and aerospace
Fabrication - machining, welding, brazing, soldering, sheet-metal forming
Addative Manufacturing - SLA, SLS, FDM high-dielectric strength and structural 3D printed parts

Personal

I am a Seattle native who enjoys sailing, skiing, working on automobiles, boats and houses. I aim to grow with humanity by tackling impactful, challenging problems.
As an developing engineer in a world frought with pitfalls from balloning populations, I dedicate my efforts to directed innovation, pushing the edges of comfort zones, seeking growth and impact for a sustainable future.