Alec L Tokosch

956 Burnett Ave., Arnold, MD 21012 | (443) 994-5094 | atokosc@clemson.edu

Summary

A motivated, determined, and reliable automotive engineering student with over a year of manufacturing engineering experience and is interested in pursuing an internship related to automotive systems.

Education

Clemson University, Greenville, SC
Master of Science: Automotive Engineering
Expected Graduation: May 2021

York College of Pennsylvania, York, PA — Graduated: August 2018
Bachelor of Science: Electrical Engineering
GPA: 3.65

Engineering Coursework

Microprocessor/Embedded System Design	Capstone I and II (Electric Car)	Control Systems
Automotive Manufacturing Systems	Automotive Systems Integration	Automotive Electronics

Engineering Skills

V&V	GD&T	MATLAB	C/C++	SolidWorks	NX	FPGA Dev Board
CAN	ModelSim	Quartus II	Eagle	Allegro	Giant Gecko Cortex-M3	Orion BMS
MIPS	Ladder Logic	PCB Design	Eclipse	mbed LPC1768	Microsoft Office	I2C, SPI, U(S)ART

Engineering Projects

Capstone I & II: FSAE Electric Car, York College, Summer 2017 – Spring 2018, ECE Project Lead, Tractive System Lead

- Create documentation outlining safe and correct operation of motor and motor controller
- Design circuit and PCB to automate powering on the motor controller and its operation
- Battery box design and architecture that complies with FSAE rules, integrate batteries with BMS
- Successfully lead project, integration with all subsystems of the car - mechanical, electrical, final build
- Manage project BOM, budget ($13,000)

Independent Study: Redesign FSAE Electric Car Battery, York College, Summer 2018

- Redesigned/built battery architecture
- Designed/built 3.6V, 15Ah module with 18650s to connect in series with additional modules
- Designed/built PCBs for voltage sense connections to modules
- Managed project BOM, budget ($1,100)

Automotive Electronics: Autonomous RC Car, Clemson University, Fall 2019

- Used ultrasonic sensors to create an autonomous RC car for ACC and lane keeping
- Wrote controller and associated logic to control the steering and throttle
- Demonstration: https://youtu.be/H6CQaJLHmoE

Engineering Experience

Becton Dickinson, Sparks MD

Electrical Engineer	September 2018 – August 2019
Associate Electrical Engineer	May 2018 – September 2018
Electrical/Manufacturing Engineering Co-op	August 2017 – May 2018

- Complete characterizations/studies to support design protocols and changes
- Successful V&V (Design Verification and Validation) protocols, protocol executions, and final reports
- Update documentation based on procedure and/or board changes

- Troubleshoot and fix issues on the production floor
- Increased throughput of optical detection system
- Created troubleshooting and repair procedures for all possible issues of the optical detection system

CMTA Consulting Engineers, Arlington VA
Electrical Engineering Co-op January 2017 – May 2017
- Survey buildings for existing electrical and mechanical equipment
- Understand how high/low voltage is distributed throughout buildings
- Create electrical demolition and new work plans based on survey notes and architectural design drawings

Graham Packaging Company, York PA
Automation Co-op May 2016 – August 2016
- Retrofit and rewire control cabinets for Allen Bradley digital controls
- Debug system software and hardware (PLC) for correct system operation
- Build J-Box cabinets to connect extruders to control cabinets
- Updated HMI for additional control features

Additional Experience
MacMedics, Severna Park MD, January 2012 – To Present
ACMT and ACiT, Apple Certified Technician