### **Professional Motorsports Experience**

### **Engineer & Crew Chief - Venturini Motorsports**

#### Engineer Roles (Full-Time)

- Led use of Toyota Racing Development (TRD) chassis simulation tools for setup development across all teams
- Used theoretical ride models and driver-in-the-loop (DIL) simulator runs to observe vehicle characteristics
- Correlated driver feedback from DIL to race events for sim validation
- Coached new drivers in DIL using telemetry data to familiarize and assist with real-life unloading
- Installed Motec DAQ systems for testing events and analyzed outing data to assess vehicle performance
- Managed shock absorber inventory with shock builder, created builds based on sim, and dynoed in-house
- Developed proprietary team analytics for ARCA events to objectively compare driver performance

#### Crew Chief Roles (Part-Time)

- Finalized and documented specific vehicle setup with car chief (i.e. pulldown, final setup plate adjustments)
- Directed a specific team throughout all aspects of track events (tech inspection, practice, qualifying, and race)
- Communicated with driver and team to extract vehicle feedback and tune live during practice and race

### **Engineer - Rick Ware Racing**

#### NASCAR Roles

- Reviewed ECU and SMT Analytics data to debrief with drivers and validate feedback of in-race performance
- Distributed upcoming event previews with data and visuals (i.e. SMT from previous events, in-car videos)
- Reviewed fuel mileage and analyzed pit strategy options at-track during races
- Organized details (i.e. inspection scans, race summary, issues) into post-race reports

#### **IMSA** Roles

- Worked on maintenance and setup on Riley-Multimatic MK30 LMP2 and Audi R8 LMS GTD vehicles
- Applied DAQ tools (i.e. Pi Toolbox, Motec i2, Bosch WinDarab) for driver and vehicle performance reviews

### Internships

#### NASCAR Research and Development Center

- Supported NASCAR R&D's aerodynamics department with CAD and wind tunnel projects
- Recipient of the NASCAR Drive for Diversity "Outstanding Intern" Award

## **Education & Collegiate Experience**

B.S. in Mechanical Engineering: University of Kentucky | Graduated: May 2019 | GPA: 3.66/4.00

### Team Manager - University of Kentucky Solar Car Team

- Led team through solar car vehicle design, fabrication, testing, fundraising, and at-track competition
- Assisted with laying groundwork for the team's most successful string of finishes with a single vehicle

### Aero/Body Lead - Formula Kentucky (University of Kentucky Formula SAE Team) Mar. 2017 - May 2019

- Designed and manufactured bodywork using CAD, CFD, and composite manufacturing techniques
- Conducted testing to qualitatively and quantitatively observe surface flow and drag characteristics

# Skills & Knowledge

- DAQ/Telemetry (Motec, ATLAS, SMT, RaceCapture, Cosworth, Bosch)
- TRD Software (Hydra/Chassis Tuner, DIL Support, Athena/Timing and Scoring)
- CAD (Autodesk, Creo), FEA, CFD (ANSYS)
- Programming (VBA, Python, MATLAB, Java)
- Multimedia (Photo/Video, Adobe CC Suite)

### Dec. 2019 - Nov. 2020

#### Feb. 2020 - Nov. 2020

eviews

Dec. 2019 - Mar. 2020

May 2019 - July 2019

Jan. 2018 - July 2019

Dec. 2020 - Present