

Jonathan Afzali

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TECHNICAL SKILLS

- SolidWorks (Certified SW Associate)
- MatLab & Simulink (C/C++)
- AutoCAD
- ANSYS
- Mechanical Design & Analysis
- Machine Shop (Mill/Lathe)
- Robotic Planning (Arduino)
- PDM
- FE Certified (EIT)
- Testing & Debugging
- OSHA-10
- Microsoft Office Suite

WORK EXPERIENCE

MECHANICAL DESIGN ENGINEER

SANTA CLARITA, CA | NOVEMBER 2019 - PRESENT

SGB ENTERPRISES, INC.

- Led in the calculation and design of various control panels and indicators for pilot ground training aerospace systems, collaborating with various mechanical, electrical and software engineers, manufacturers and the clientele. The systems were designed and tested using SolidWorks with BOM and design checks to ensure product strength, with PCB and electrical designs being outlined for the electrical and software engineers to design and code with, factoring for manufacturability and feasibility.
- Worked with team members to ensure accurate dimensioning, improving the design and ensuring that the system would be compatible with the company and industry standards. Each design was made into drawing documents in house for our manufacturers and assemblers to use.
- Presented design reviews and updates for each project to engineering peers and management to show progress on projects and work with the team to find the next design path or potential issues, including order/lead times and specification requirements.
- Filed document packages for each project using PDM. Each project document package included project meeting information and minutes, released assembly and top assembly drawings for manufacturer and engineering reference, block wiring diagrams and assembly instruction.

MECHANICAL ENGINEER

PASADENA, CA | FEBRUARY 2019 - AUGUST 2019

FALCON ENCLOSURE CONSULTING

- Consulted on the building enclosure systems of various multimillion dollar projects in San Francisco and Los Angeles, working alongside architects, general contractors and construction workers on the design, specification and instruction on projects. The enclosure system includes water and air barriers, product compatibility, thermal fluctuations and specific system needs.
 - Conducted various field and water proofing tests to ensure that the system operates as designed, writing a field report to the project owners to summarize the issues found and the recommended actions to take. For details that required quick solutions, schematics were drawn based on the project revit files using AutoCad and sent to the owners in order to make the needed adjustments.
 - Networked with product developers/representatives, architects, project owners and other onsite consultants and engineers, developing a close working relationship to build a positive and productive work environment.
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PROJECT EXPERIENCE

TORQUE VECTORING SUBTEAM LEAD

UC RIVERSIDE | JULY 2017 - FEBRUARY 2019

FORMULA ELECTRIC FSAE

- Led the design, calculation and manufacturing of the torque vectoring system for UCR's first EV SAE Car. This includes creating failsafe systems for the safety of the driver and the vehicle, as well as ensuring ease of testing and evaluation using model-based systems engineering (MBSE), utilizing low voltage systems and sensors and reducing redundancy in the system.
- Used MatLab and Simulink to model, calculate and test the torque vectoring control system, producing data to develop future iterations, and consistently improve the design. Converted and revised final Simulink models into C & C++ for implementation into the main system, allowing for the system to be tested and confirmed from engineers at the next steps of development.
- Coordinated meetings and work sessions with team members, allowing for open communication between members and subteams for a stronger understanding of the mechanical and integration systems that factor into design, system requirement verification and compliance certification.

INTAKE TEAM MEMBER

UC RIVERSIDE | SEPTEMBER 2015 - FEBRUARY 2019

FORMULA INTERNAL COMBUSTION ENGINE FSAE

- Worked with a team to research and design an intake system for an original 599cc engine for the UCR SAE IC car, resulting in a durable, dynamic and efficient system. The system was designed and tested using SolidWorks and Ansys to model structure and flow simulation tests using the outline specifications, successfully testing the system under extreme stress and intake conditions.
- Worked with team members to ensure accurate dimensioning, improving the design and ensuring that the system would be compatible with the engine, the runners and the choke valve designed by other engineers. Each of these also met the SAE guidelines and specifications.
- Presented the system at the 2018 Lincoln, Nebraska FSAE competition to various noteworthy engineering firms, receiving critical acclaim from each for its design, process and functionality. The system performed perfectly during the competition, practical testing and usage.

BUSINESS TEAM LEAD

UC RIVERSIDE | FEBRUARY 2018 - FEBRUARY 2019

FORMULA INTERNAL COMBUSTION ENGINE FSAE

- Worked with a team of engineers and businessmen to create a business plan for a multi-million dollar mock company for a private formula car manufacturing and distribution business model, including start up costs and equity for potential investors.
- Calculated annual and monthly costs of a mock company based on the Bill of Materials (BOM), salaries, and regular upkeep, resulting in an accurate report, later presented to a group of "potential investors" at the 2018 Lincoln Nebraska FSAE competition.

EDUCATION

Bachelor of Science | University of California, Riverside
June 2018

- Major: Mechanical Engineering - (Design and Manufacturing)