Samer Salem

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OVERVIEW Passionate electric aviation engineer with an eye towards practicality and creative problem solving. Efficient mechanical designer with experiences in high voltage batteries and power distribution, development testing, and thermal design. Skilled communicator that thrives in team environments.

EDUCATION

Carnegie Mellon University

Master of Science in Mechanical Engineering — GPA: 3.82

Bachelor of Science w/ University Honors in Mechanical Engineering — GPA: 3.71

EXPERIENCE

Joby Aviation — Feb '21 – Current

Mechanical Engineer, Energy Storage

- Technical design lead of a new battery development program for a future aircraft.
- Owned the Battery Control and Distribution Module and the battery systems' high voltage power distribution. Brought both systems from concept to successful completion of safety of flight tests and integration into a type-design-representative S4 in 17 months.
- Analyzed, tested, and determined the manufacturing procedure for light weight potting and adhesives for thermal runaway mitigation of S4 battery modules in 3 months.

Aurora Flight Sciences, A Boeing Company — Jan '18 – Jan '21

Mechanical/Thermal Engineer, Electric Power Systems

- Mechanical designer of the battery and power distribution for an experimental cert small eVTOL (*Cargo Air Vehicle*). Selected pouch cells and S-P configuration. Designed and analyzed battery pack for missions' stress and thermal loads. Delivered first articles for ground testing in 7 months.
- Influenced EP Systems battery module design for an experimental cert eVTOL (*Pegasus/PAV*). Designed high voltage power distribution and led module integration. Developed acceptance and safety of flight test plans. Member of flight team monitoring battery and motor vitals.
- Designed, manufactured, and tested a cylindrical cell battery pack for a solar aircraft in 4 months.
- Flight control linkages designer for a fixed wing UAV from concept to critical design in 9 months.

Thermodynamics, Carnegie Mellon University — Fall '17

Course Assistant, Mechanical Engineering

- Aided in the understanding of fundamental thermodynamic principles for 129 students.
- Hosted office hours, taught exam review lectures, and developed exam questions.

General Electric Renewable Energy — Summer '17

Technical Coordinator, Customer Resolution Manager

- Developed and administered a customer communication process for informational updates on over 28,000 installed wind turbines in North America.
- Dispositioned serial claims and created financial proposals for end-of-warranty negotiations.

Aurora Flight Sciences — Summer '16

Mechanical Design Engineer

- Designed a flight control linkage system for retrofitting a Huey with autonomous flight capability.

PROJECTS

Decision Analysis for EV Cathode Material, Prof. Venkat Viswanathan — Fall '17

- Evaluated EV supply chain trends to analyze potential bottlenecks and aid decision makers in investment opportunities for price volatile cathodic materials.

TruLie Golf Simulator — Spring '17

- Designed and built a motor driven golf platform. Team earned Senior Capstone overall best design.

LEADERSHIP

Captain, Carnegie Mellon University Varsity Football — Fall '16

- CoSIDA Academic All-American and NCAA Postgraduate Scholarship.
- Created an annual fundraiser that has benefited over $5,000 to Children's Hospital of Pittsburgh.