



Electrical Engineering Intern

Mainstream Engineering Corporation is a solutions-oriented research, development and manufacturing organization founded in 1986. Our mission is to develop and implement emerging technologies into military and private sector products that provide a technological advantage. Areas of expertise include thermal control, energy conversion, turbo-machinery, chemical technology and materials science. For more info on our firm, please visit us on the web at <http://www.mainstream-engr.com/research/powerelectronics/>

Due to continued growth, our firm is seeking the Electrical Engineering Interns for a variety of roles including power electronics design, control algorithm development, embedded system design, analog circuit design, magnetics design, and test stand building. Successful candidates will get hands on laboratory experience in building switching power converters, building high-fidelity test stands, and assisting in the design of power converters, magnetics, and thermal management systems. Additional duties could include the design and layout of PCBs, programming of microcontrollers, development of control algorithms for power converters. All of Mainstream's power converters are built around state-of-the-art wide-bandgap semiconductor devices.

Active projects at Mainstream that EE interns will participate:

- Development of wide-temperature range (-225 °C – 200 °C) GaN semiconductor module with ratings of >1.3 kV and >300 A (SBIR Phase II)
- Development of 500 Apk GaN based dc-dc converter for Army ground vehicles (SBIR Phase II)
- Development of 15 kW SiC VFD for >150 kRPM Hybrid-Electric-Turbocharger (SBIR Phase II)
- Development of a 2.5 kW spacecraft power converter for satellite power systems (SBIR Phase II)
- Development of advanced magnetic components for naval sonar applications (SBIR Phase I)

Mainstream Engineering is a research and development firm ideally located on the Florida's Space Coast, convenient to all of Florida's desirable activities. Several unique aspects of employment at MEC are:

- Opportunities to explore your own interests, manage your own projects, diversify your experience as well as carve out a niche for yourself in applied research and development
- Publish technically and peer-reviewed manuscripts as well as patent innovations
- Exposure to the full product development process from conception to manufacturing
- Potential to advance technologies beyond the current state of the art
- Freedom of movement between multiple projects and technology areas
- Work on challenging problems for government and private-sector clients

Minimum Requirements:

- Electrical engineering major with a minimum GPA of 3.3, MS and PhDs students a plus
- United States Citizenship or US Person Status required due to US Government ITAR program restrictions
- Experience programming TI microcontrollers or DSPs a plus
- Knowledge of basic power electronics, analog circuit design, or magnetics design a plus

Apply online and include a resume, cover letter, and unofficial copies of transcripts indicating a GPA not less than 3.3 in all degrees earned or pending: <https://mainstreamengr.applicantpro.com/jobs/546674.html>

Example Hardware of Mainstreams Power Electronic Converters and Components

