Job Description
Engineering Intern – Space Electronics (Avionics) Design

Atomos Space is a venture-funded startup in Denver, CO seeking to reduce the cost of access to space by developing orbital transfer vehicles (OTVs) to solve the “last mile” problem in Earth orbit. As an intern you will, under guidance of an Atomos senior/principal electrical engineer, design a Power Switching & Data Formatting unit that will be built, space qualified, and flown on our initial Quark OTV. This is a virtual internship, as the team is currently all working from home due to COVID-19. This may change, but the baseline internship will be remote. You can work from wherever you are in the US, but the schedule will be based on Mountain Daylight Time.

Responsibilities

• Translate the functional requirements that we have specified for the PS/DF unit into circuits (one or more schematics) and circuit board layout(s) using an industry standard design/development environment (Altium Designer, Autocad EAGLE, or similar)
  NOTE: This design is fairly complex, including aspects of moderately high current DC power switching as well as interface with analog and digital sensors (which may include signal conditioning, Analog to Digital conversion, etc.). Your design will be expected to be able to operate reliably without introducing measurable noise in the data from several optical sensors. Data rates will be relatively high speed (MBPS or higher transfer rates), and the device will interface to a Gigabit Ethernet compliant user device. The design will incorporate a microprocessor (either as a discrete component, or as IP implemented in the fabric of an FPGA).

• Interface with component vendors to verify availability of EEE parts selected for the design.

• Produce board fabrication files (Gerbers) that can be used by a circuit board fabrication house to implement your board design.

• Interface with board fabrication houses to obtain quotes for board fabrication.

• Develop a Bill of Materials (BOM) for the board or boards; Guide assemblers/fabricators in the assembly and test of your design.

• Perform initial functional verification testing on completed prototype board assemblies.

• Revise designs, as needed, based upon findings during prototype testing.

• Participate in systems engineering activities related to your design

• Other related projects as/if they arise

Qualifications

• University coursework in Electrical Engineering, including analog and digital circuit design
• University coursework in scientific computing
• Current Junior, Senior, or grad student
• US Person*

Desired Experience

• Independent academic project, internship, or previous work experience in high-speed mixed analog/digital circuit design. Operating knowledge of design tools like Altium or EAGLE strongly preferred. Previous electrical design experience for space applications strongly preferred.
• Advanced electronic circuit design/development coursework
Logistical Information

Start date: TBD (likely May 2021)
Duration: Flexible, Minimum three months preferred
Location: USA

Please submit resumes or CVs to wayne@atomosspace.com with the following subject line format: [Space Electronics Internship] Last Name, First Name.

Cover letter is not required but preferred.

*NOTE: This position is subject to Export Control Laws (U.S. State Department regulations at 22 C.F.R. Subchapter M and the U.S. Department of Commerce's Export Administration Regulations found in 15 C.F.R. Part 730). If you are not (a) a citizen of the United States; (b) a lawful permanent resident of the United States; or (c) a person admitted into the United States as an asylee or refugee and wish to be considered for a position not subject to Export Control Law, please email info@atomosspace.com.