

Analog and Digital Electrical Engineer

OPPORTUNITY

Ainira Industries is currently seeking applicants for Analog and Digital Electrical Engineers to join our team in beautiful Melbourne, Australia. This position will report to the Electrical Engineering Manager and is responsible for supporting the design and testing of complex optoelectronic systems related to the next generation advanced EV. You will be helping with novel implementations of autonomous driving and remote sensing.

JOB DESCRIPTION

Analog and Digital Electrical Engineer is required to design and develop a broad array of electronic products for use in autonomous driving and remote sensing depth mapping applications.

This includes the design and integration of low-noise front end sensor boards and analog circuitry, high-speed data transfer, mixed-signal boards, as well as power supplies, power distribution, and electro-mechanical control assemblies.

The engineer will take designs from initial architecture definition all the way to production release. Along the way, they will be involved with design specification, schematics design, simulation, firmware specification, prototype parts procurement, assembly and test, and complete documentation.

Product designs involve the combination of these optoelectronics with analog and digital designs for interfacing to large high-speed FPGAs and ASICs, and to PC's via USB, PCI, Ethernet, and other common protocols.

RESPONSIBILITIES

- Familiarity with optical sources (lasers, LEDs, etc.) and their drive circuits
- Experience with single and multi-element optical detectors (i.e. APD, CMOS, PIN and CCD's) and their readout circuits
- Experience with analog and mixed-signal designs: low noise and/or high-speed applications (>1 GHz)
- A/D Converter Implementation – 16 bit ADC's > 100ms
- Low noise power supply design and implementation to support analog and digital circuitry
- Experience with low noise and moderate bandwidth PCB layout and fabrication
- FPGA design, synthesis, timing closure and implementation. VHDL and Xilinx, Vivado experience preferred
- High bandwidth (>1GHz) and size
- High-speed SERDES interfaces
- FPGA embedded DSP
- Interfacing FPGA to standard peripherals and microcontrollers via Ethernet
- Embedded programming experience for microcontrollers with up to 32 bits

- Completing the entire PCBA design cycle, including component selection, schematic capture, simulation, layout, verification (bring-up, debug, testing, troubleshooting), and PCBA design documentation
- Experience with standard electrical engineering CAD tools for schematic capture, simulation, and layout (Orcad, Spice, PADS, Altium, or equivalent design tools) – Altium experience preferred
- Perform other duties as assigned

SKILLS and ABILITIES

- Qualified candidates must have a BSc or MSc degree in electrical engineering and 5+ years of work experience with electronics
- Background in lasers and photonics; LiDAR and/or ViDAR is an advantage
- Must have excellent communication, presentation and supply chain interface skills with a keen eye for detail
- Ability to prioritise multiple competing projects; and is flexible, adaptable, collaborative and follows-through
- Must operate with the highest level of ethics, integrity, confidentiality, and be dependable
- Strong organisational skills and ability to work independently with limited supervision
- Must be able to accurately communicate ideas, always operate on a professional level and provide solutions to challenging issues
- Willingness to continue to learn, grow, and take on stretch assignments
- Excellent computer and MS Office skills to report in a variety of formats using Word, Excel, Visio, PowerPoint, PDF

COMPENSATION

The Company offers a competitive compensation and benefits package, including salary and company stock.

APPLY

Click "Apply" below or use form in the Contact section – quote the reference number HR-ENG-0028. Only the shortlisted candidates will be contacted. Thank you for your interest.