

## Senior mixed signals electronics engineer

£50,000 to £60,000, London

### Company information

Cortirio's mission is to save lives by developing low-cost, portable brain imaging.

Brain injuries are the most common cause of death and life-long disability amongst the under 45s. Current brain imaging technology is non-portable and expensive, causing delays to treatment and costing lives. The problem is even more acute in low and middle income countries: two-thirds of the world's population lack access to even basic medical imaging.

Cortirio are developing a portable, wearable headset that enables brain imaging at the bedside or the roadside. Our technology uses infrared light to image blood at high resolution and automatically detect injuries. We're looking for people who want to grow with the company, take on responsibility and adapt to new challenges. You will work in a tight-knit team but have the autonomy to have a big impact on the product, the company and the world.

### Role description

The role is to design and develop the electronics for wearable infrared medical imaging. The product uses a high density emitter and detector array. The device operates in a challenging environment for signal-to-noise so experience working with high fidelity/low noise electronics is essential. You will continually push the state of the art in lightweight, high sensitivity electronics to produce life-saving products.

You will work alongside a small, focussed team of engineers and scientists to develop the product. Within the team, you will have ownership of the analogue front-end and work independently to design the analogue architecture. You will also collaborate with the team, contributing to all aspects of device design, from mechanics to firmware.

There are options for flexible and remote working. Stock options will be offered.

### Role responsibilities

- Analogue architecture design of compact, low noise optical measurement systems
- Analogue architecture and design analysis of modulation and demodulation systems
- Analogue circuits design, PCB design, layout and schematic capture
- Willing to participate in all aspects of the system design from mechanics to firmware

### Core experience

- 10+ years experience developing a range of high sensitivity electronic sensor measurement systems
- Developing photodetector circuits for low noise applications
- Mixed signal PCB design, layout and schematic capture, optimising for low noise
- Practical implementation of digital signal processing

### Desirable experience

- Designing front end amplifiers in the pA range
- Designing shielding and noise reduction for high sensitivity scientific/measurement equipment
- Designing digital or analogue lock in amplifiers
- FPGA digital signal processing design (FIR, FFT, Fixed point, etc)
- Awareness of system characterisation over process, voltage and temperature
- Instrumentation control for validating and characterising prototype designs
- Firmware development using C and/or C++
- Data analysis and signal processing on PC (Python, numpy, bash, matlab, R, etc.)



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