Research Engineer

£30-55k depending on experience

This is an opportunity to join the technology research team in an established consumer electronics company in Cambridge. We make wearable location and activity trackers for cats and dogs, and the technology behind them. Our goal is simple: to help every pet owner keep their pet healthy and safe. There are more than 20 million cats and dogs in the UK alone. We're the UK's clear leader in this growing market. Tens of thousands of owners rely on our devices, app and cloud services every day, and they tell us they love them.

Our engineering team of 25-30 people is based in central Cambridge, near the station. We design and build almost all of our technology in-house, from hardware and firmware to mobile and cloud. It's genuinely challenging work. We take it seriously, we work fast, and we have fun. We're now looking for people who want to join the team and do the same.

Here's what you'll DO

- Work in a team alongside experienced engineers and developers to create the next-generation technology for our future products.
- Prototype creative ideas, including your own product concepts: innovation is built into our culture.
- Develop on new embedded processors and microcontrollers, bringing up their environments from scratch
- Discover, prototype with and evaluate new sensors, developing circuits, writing software drivers and testing their capabilities.
- Craft new software protocols and architectures to underpin our next generation products.
- Lay-out mixed signal PCBs including multi-layer routing, fine-pitch BGA parts and potentially RF.
- Hand solder prototype designs and rework down to 0201 and occasionally small QFN or simple BGA parts.
- Design from a data-driven perspective using calculation and simulation, with an approach towards functionality, power efficiency, reliability and cost.
- Ask the right questions and influence decisions.
- Work in a team that has a keen focus on personal development: you will be given the time to learn within our sprints.

Our TECHNOLOGY

- Our wearable devices are based on groundbreaking electronics developed in-house, where we value paying attention to every detail. The result is devices that balance the best performance, reliability and cost.
- Our devices are based around low-cost Arm Cortex M33 and M0 processors and incorporate a wide range of technologies such as GNSS, Bluetooth, Wi-Fi, mobile cellular communications, Qi wireless charging and a range of sensor technologies.
- The majority of our embedded software is running on the Zephyr operating system.
- Our production line test kit is all developed in-house, and each one uses a variety of different technologies. We work with many different sensors, pneumatic systems and automation solutions.
- We're continually looking for new and better ways to put our team in charge of how we develop our hardware, electronics and code in the most productive and robust ways.

The TECH SKILLS you'll need

You don't need to have every skill here, but the more, the better! As we're a small team, you'll have the opportunity to get your hands dirty working on anything and everything. We're looking for experience in:

- Whether it's from home projects or your career, you'll need a broad range of experience in embedded software and electronics:
    - Microcontrollers and system-on-chip processors with embedded C programming.
    - Various peripheral communication protocols like SPI, I2C, UART.
    - Hands-on work with electronics circuits.
- The debugging and problem-solving skills that come with developing all the above.

The SKILLS it would be nice to have

- Source control (e.g. Git).
- Experience in designing for low power consumption.
- Experience in designing and optimising for low cost.
- Machine learning and AI.
- Power circuitry including battery management, switch-mode regulators, etc.
- Experience in RF and antenna design would be a great bonus.
- Other electronics or hardware-related skills that we haven't mentioned; you never know when they might come in handy for our next product or piece of test kit!

OTHER SKILLS you'll need

- People who get stuff done. We can't overstate this. We ship new technology products to real users in a fast-moving market that works in dog years!
- Attention to quality. We can't overstate this either. Hardware takes a long time to change, so we have to get it right the first time.
- Independence and teamwork. Yes, both. We need people who can work unsupervised on one day, and as part of the pack the next.
- Clear thinking under uncertainty. We live in a complex world, and we don't always have all the data. We need people who can fill in the gaps and imagine the whole picture.
- A "can do" approach to life. If something looks hard – impossible even – we still try to find a way to do it, or something very like it. See also "get stuff done" above.
- And it would be great if you owned a cat or dog!

What we OFFER IN RETURN

- The chance to see your work in the hands of tens of thousands (sometimes hundreds of thousands) of real users.
- Working alongside intelligent, supportive people who listen to everyone's ideas and help each other do their very best work.
- Ability to develop and grow in responsibility, with the backing and support of experienced engineers.
- A broad role, so you'll gain wide-ranging experience rather than being stuck in a narrow niche
- The opportunity to kick-start or grow your career through our commitment to on-the-job training and our fortnightly "hack Friday" sessions.
- Fully flexible working based either from our easy-to-get-to office (bring your dog if you like) or from your home, or both. If you're working with hardware, it makes sense to be in the office to access tools in the lab, so keep that in mind. The Research, Hardware and Firmware teams will be in the office most days.
- The chance to be part of a successful tech scale-up, and to see from the inside what makes a fast-growing business like ours succeed.
- A fun and sociable culture with lunchtime BBQs in our garden and regular out-of-hours events.

How to APPLY

We'd love to talk to you. We expect a lot of interest, so to give yourself the best chance, we'd love you to send TWO things to talent@pitpatpet.com:

1. Your CV.
2. A **brief** email mentioning how your previous experience would help you make the best contribution to our team according to the "The TECH SKILLS you'll need" section above.

In return, we promise to reply letting you know whether we'd like to take the conversation further. And if we do, and you have a dog or cat, don't forget to ask us for a PitPat with our compliments.

Good luck!