



Software Engineer (IoT/Python)

Summary

FTE: £26,000–£34,000 PAYE/Payroll (dependant on experience and qualifications)

Time: 0.8 – 1 FTE (Flexible)

Location: Central Manchester, UK (Remote possible)

Holiday: 33 days flexible (pro rata) + 5 fixed

Duration: 1 year fixed term contract (with potential for extension based on funding and performance); 6 month probationary period

Starting: ASAP

Apply now:

- Send your CV **and** a one page cover letter to info@carbon.coop by 5pm, Friday 3rd September 2021.
- Put 'Software Engineer IoT' in the email subject.
- For questions or queries please contact
- Interviews will be conducted by video call in the week starting 13th September.
- You may be asked to complete a short technical assessment in the week of 6th September depending on your experience.

Please apply!

We're an equal opportunity employer, value diversity and have flexible working practices. We acknowledge that people from certain backgrounds are under-represented within our sector and our organisation - and we want to ensure we address this. We encourage applications from anyone with suitable skills, no matter their background or ability. If you don't feel confident enough to apply, get in touch with us, we'd love to chat!

About us

[Carbon Co-op](#) is an award-winning and fast-growing energy services and advocacy cooperative that helps people and communities to make the radical reductions in home carbon emissions necessary to avoid runaway climate change.

We're led by our values: we're trying to mitigate the worst effects of climate change in a socially just way. The work we do makes a difference, both at the policy level and in terms of practical de-carbonisation of buildings and energy systems. We're often working at the leading edge of the kind of work we do.

REScoopVPP: A Horizon 2020 funded innovation project building smart energy solutions for energy communities across Europe. Twelve project partners will work together to develop a cofy-box (Community Flexibility Box) and virtual power plant which will then be tested in 5 pilot sites around Europe run by energy co-operatives. To find out more visit: <https://www.rescoopvpp.eu/>

PowerShaper: Carbon Co-op's smart energy service providing access to smart meter data and a way of controlling energy appliances in the home so that consumers can take advantage of time of use tariffs and demand side response programmes, reduce their energy bills, and help operate the grid and promote renewable energy. For more information see: <https://flex.powershaper.io>

About the job

We are looking for a Software Engineer to join us to work on our energy systems projects in the area of smart energy/home. These are innovative and exciting projects which (amongst many other things) involve developing software to run on energy management systems in people's homes which are used to automatically control energy appliances (electric heating, electric vehicles, heat pumps, batteries) in order to help operate the electricity grid and promote the use of renewable energy.

We use a 'modern' but 'boring' stack - Django backends, AWS platform services, and container-based deployments. We generally follow an agile and test driven development methodology but are flexible and practical about this and experiment with different modes .

This role would be a good opportunity for a recent STEM graduate with an interest in renewable energy and energy technology and/or distributed systems and IoT. There are a lot of interesting problems to solve here, now and in the future, across various domains (web/DevOps/data/IoT/UX) and as a small organisation there will be opportunities to gain exposure too and experience in a wide range of technologies.

Job Description

Role areas

The role covers the following areas:

- Developing software in Python to run containerised on our home energy management systems (HEMS) for management/monitoring and supporting sensing and hardware control applications. For example, controlling the charging of an electric vehicle depending on a schedule or whether or not any solar power is being generated at the time.
- Configuration of the HEMS software and firmware for deployments.
- Developing software to interface with different energy asset hardware.
- Debugging and resolving issues with the HEMS system.
- Second line support for the pre-commercial deployments of the HEMS and related systems around Europe during the innovation project.
- There may also be opportunities to work in other areas such as software development and operations for our Django-based Demand Response Management System (DRMS) and core business systems.

Person Specification

Qualifications

Desirable

- A degree in a STEM subject.

Skills and experience

Essential

- 1 years experience of software development (any language). This can include placements, personal, and academic project work.
- Experience working on Linux in a CLI and developing and deploying applications on Linux systems.
- Experience using Docker.
- Communication: Good written and verbal communication skills.
- Time management and coordination: Plan and manage your own time effectively and coordinate this with others.
- Flexibility: Able to work independently or as part of a team as the work requires.
- Accountability: Take ownership and responsibility for agreed work.

Preferred

- Experience with version control (we use git and Gitlab) and CI/CD (we use Gitlab / Terraform).
- Knowledge/experience of developing applications for sensing and control in hardware systems in a Linux environment.
- Experience developing software applications using Python.
- Experience with containerisation of software applications.
- Experience deploying on cloud platforms (we use AWS).
- Experience and knowledge of agile practices, test driven development (TDD).

Useful

- Knowledge/experience working in energy systems.
- Django experience.

- DevOps experience.
- Interest in IoT and edge computing (e.g. Raspberry Pi, Zigbee, ESP).

Values

We need staff to demonstrate, understand and apply our core organisational values. These are embedded in all our roles and applicants are expected to demonstrate these values as part of the application process:

- Commitment to collective and community-based approaches to tackling climate change.
- Commitment to co-operative values.
- Commitment to Equality, Diversity and Inclusion.
- Commitment to environmental justice and tackling inequalities.

Our organisational culture

We are a small (but growing), multi-disciplinary not-for-profit with a mission built around tackling climate change. Community benefit is hardwired into our organisation's structure, we are 'asset locked' and owned by our 300+ lay members who annually elect a management board. We subscribe to international co-operative principles. Our work culture is open and collaborative, we practice self management principles and we employ practices such as user-centred design, service design and agile development. We welcome new team members from a wide range of backgrounds!

Location

We would prefer you to work out of our office in central Manchester but remote is also possible.

Legal right to work

By the time you commence your employment you must have a legal right to work in the UK. We are currently not in a position to act as a sponsor.

Next steps

Email us your CV plus a single page covering letter, setting out your reasons for applying and how you meet the essential requirements set out in the Person Specification. If you have any questions or are unsure whether you should apply please get in touch.

After the closing date we will shortlist candidates and then carry out interviews by video call before making an appointment.

Good luck!