

Junior Digital Solution Engineer - Digital Shoestring Unit

Full-time, 37.5 hours per week.

About Shoestring

The Digital Manufacturing on a Shoestring Unit was a successful research programme which devised an affordable, easy-to-implement approach to help manufacturers try out small-scale digital solutions that will not disrupt core operations, but which can provide immediate benefits.

A Digital Shoestring Unit was established in 2022 to oversee the transition of the Digital Manufacturing on a Shoestring research project into a viable, self-sustaining industrial programme. The formation of the Unit is being funded by the Gatsby Charitable Foundation. In order for the Shoestring programme to transition from research into industry use, a number of key objectives have been identified:

- The expansion of a Digital Shoestring Unit to develop key offerings (training, membership etc) and support regions in developing their own local Shoestring programme
- An online portal giving access to the Shoestring configuration platform, pre-configured solutions, training and how-to guides, a community platform and installer directory.
- Shoestring training programmes for SME manufacturers, service providers and apprentices
- Train-the-trainer programmes for teachers in FE colleges, apprentice training centres and similar, to allow at-scale UK-wide dissemination of the Shoestring platform and approach.
- Enabling regional and international bodies to lead on Shoestring in their local region or country, including local pilot deployments.

The Digital Shoestring Unit works directly with the IfM's Distributed Information and Automation Laboratory (DIAL) to achieve these key objectives.

The Digital Shoestring Unit is incorporated into IfM Engage, a company which is wholly owned by the University of Cambridge. Profits from IfM Engage are gifted to the University of Cambridge to fund future research activities.

The Role

This is a 1-year fixed term contract role and is full-time. However, we are open to conversations around flexible working and operate a hybrid working policy. The salary band for this role is £34,500 – £38,500 plus a generous benefits package, including healthcare.

The Role Description

A hands-on technical role supporting the development, testing, and deployment of Shoestring's standard sensing solutions. You'll help keep our solutions stable in production, improve the repeatability of deployments, and support delivery with fast troubleshooting and clear documentation. This entry-level role is ideal for a junior engineer or an individual looking to gain hands-on, real-world experience across software, IoT/edge systems, and impact-focused data within an agile, collaborative team.

Core technology you'll work with

- Python (scripting, data handling, integrations)
- Web stack: Django + basic frontend (HTML/CSS/JavaScript)

- Linux on edge devices (e.g., Raspberry Pi), networking basics
- Containers Docker for packaging and deployment
- IoT/data concepts: messaging (e.g., MQTT-style), time-series storage, dashboards/visualisation
- Git/GitHub, issue tracking, release/version management

What you'll do

- Support development of updates and new Shoestring sensing solutions (implementation, configuration, packaging, and deployment readiness).
- Test and validate releases before deployment (QA checks, reproduce bugs, verify fixes, end-to-end smoke tests).
- Provide technical support during deployments and live use (triage issues, inspect logs, diagnose data-flow problems, suggest fixes).
- Improve production reliability by standardising configurations, reducing setup friction, and documenting best practices.
- Support the technical delivery pipeline (preparing deployment packs, validating devices/configs, and maintaining a tidy inventory of standard kits).
- Occasional travelling to support the delivery of projects.

Why this role matters

You'll help turn Shoestring solutions into dependable, repeatable products that can be deployed at scale, improving customer experience, streamlining delivery, and increasing our capacity to support more customers and projects with low-cost sensing and actionable data.

Person Specification

Criteria		Essential or Desirable
Qualifications	• Degree level/level 6 vocational qualification or an equivalent level of practical experience.	E
Experience	• Comfortable troubleshooting technical issues and learning quickly	E
	• Basic programming experience (Python preferred)	E
	• Familiarity with Linux basics (terminal, files, processes) and common IoT sensors	E
	• Clear communicator: can write simple, structured documentation and communicate effectively	E
	• Organised and reliable: can track issues through to resolution	E
	• Some experience with manufacturing contexts/environments.	E
	• Django experience or interest in web apps	D
	• Docker/container familiarity	D
• Any exposure to the MQTT communication protocol, time-series data, or dashboards	D	

	<ul style="list-style-type: none"> • Some experience providing both remote and on-site support for customers. 	D
	<ul style="list-style-type: none"> • Flexible to travel at least 40% of the time across the UK. 	E
	<ul style="list-style-type: none"> • Ability to meet the UK travel requirements of the role independently (e.g., holding a full UK driving license or having access to an equivalent form of reliable transport). 	E
Skills	<ul style="list-style-type: none"> • Excellent communication skills including writing clear and appropriate documentation • • Strong organisational skills • • Ability to understand industrial problems and context, and translate into technical solutions. • • Ability to explain diverse technical and design problems • • Good relationship management 	E E D D E
Traits	<ul style="list-style-type: none"> • Effective, friendly and professional communication style • Willing to adapt • Positive • Organised • Collaborative and enjoys being part of a team 	E E E E E

To apply for this role, please send your CV and covering letter to:
Engage HR team ifm-engage@eng.cam.ac.uk

Closing date: Friday 5 June, 2026. 16:00

Applicants must have the right to work in the UK.

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