

The logo for the Indian Institute for Human Settlements (iihs) is located in the top left corner. It consists of the lowercase letters "iihs" in a white, sans-serif font, with a registered trademark symbol (®) to the upper right. The text is set against a dark red rectangular background.

**iihs**<sup>®</sup>

INDIAN INSTITUTE FOR  
HUMAN SETTLEMENTS

**JOB DESCRIPTION**

# Software Developer – IoT Lab

## About Us

The Indian Institute for Human Settlements (IIHS) is a national education institution committed to the equitable, sustainable and efficient transformation of Indian settlements.

IIHS aims to establish an independently funded and managed distinct national university of eminence focused on the challenges and opportunities of India's urban transition. The proposed IIHS University will be a unique and distinct institution that will host quality campus-based education and cutting-edge research and innovation. The university will have a strong interdisciplinary orientation bringing together India-centric knowledge and applied research that also engages with, and draws from, knowledge across the globe.

For more information, please see <http://www.iihs.co.in>

## About the IoT (Internet of Things) Lab

IIHS' 54-acre mother campus in Kengeri, Bengaluru is designed to be an intelligent campus, digitally enabled to ease data collection, flow and storage of data for learning, research, interaction, collaboration and communication. The university buildings and all the spaces (indoors and outdoors) are monitored for environmental data, and comfort is optimised through a close looped control system. Close looped control systems shall be deployed extensively across the campus for controlling temperature, humidity, light, air quality, power consumption, irrigation for the fields, ordering supplies when a set limit is reached, perimeter sensing, CCTV cameras for surveillance, set up of rooms to suit personal preferences etc. An experimental building has been designed and built to test some of the key features in building material and site management for future deployment.

The IoT Lab anchors the IoT technology programme at IIHS. As IoT systems are implemented across the IIHS Bengaluru City Campus (BCC) buildings and the Kengeri campus, along with communication protocols for a real-time sustainability website/dashboard, the IoT Lab calibrates and tests different systems. Going forward, this will become the foundation to a full-blown neural network of IoT systems for the Kengeri campus. Thus, the IoT Lab is a key and integral part of the team that develops cutting edge IoT and ICT technology to enable the IIHS campuses.

## Job Description

We are seeking a talented young IoT Architect to join our growing team. In this role, you will play a key part in designing, developing, and implementing cutting-edge IoT solutions. You will be responsible for the entire architecture of our IoT systems, from device selection to data management.

This is a contractual position for an initial term of 11 months, renewable on mutual consent, with the potential to turn into a regular position over time.

## Activities and Tasks

Responsibilities would include, but not be limited to, the following:

- Understanding and designing scalable and secure IoT architectures;
- Working on hardware specific firmware developments;
- Embedded PCB Designing;

- Handling communication protocols (I2C, SPI, UART, RS485, RS232) to send and receive data through data pipelines;
- Participating in proof-of-concept development and prototyping;
- Working on the Campus OS software to improve its scalability and robustness, while enhancing the UI;
- Developing autonomous vehicles, for land, air, water surface and underwater; and integrating these for various applications into the campus OS.
- Collaborating with cross-functional teams (hardware, software, data science);
- Staying up to date on the latest IoT trends and technologies;
- Providing support to other IIHS activities including academics, research, training, practice, operations and others;
- Participating in all activities of Institution-Building at IIHS; carrying out tasks as assigned by IIHS; and travelling on IIHS work within or outside the country as and when needed.

### **Structure and Reporting**

The software developer will be an External Consultant coordinating with the Manager – Information Technology at IIHS and will be required to collaborate effectively with a diverse group of internal teams and external individuals/organizations, and students.

### **Person Specification**

The ideal candidate should:

- Hold a Bachelor's degree in CS, ECE, or a related field (or equivalent experience);
- Have 2- 4 years of experience in designing and developing IoT solutions;
- Possess in-depth knowledge of ESP32 and Raspberry Pi platforms;
- Be proficient in programming languages like Python, C, and C++;
- Have proven ability to deliver complex projects on time and within budget;
- Possess excellent communication and collaboration skills;
- Have strong analytical and problem-solving skills;
- Have the ability to work effectively both independently and as part of a team in a fast-paced environment.

This is a contractual position for an initial term of 11 months, renewable on mutual consent, with the potential to turn into a regular position over time. This offer is on an exclusive basis, which implies that other professional assignments (whether compensated or not) that bear a potential conflict of interest with IIHS cannot be undertaken.

The search will remain open until the position is filled.

### **Location**

This position is based in Bengaluru and may entail travel to other locations in India.

### **Review and Assessment**

The role and performance of the incumbent shall be subject to normal review and assessment systems at IIHS.

**Diversity Policy**

IIHS is an equal opportunity employer that encourages women, people with disabilities and those from economically and socially excluded communities with the requisite skills and qualifications to apply for positions.

**To apply**

If you are interested to explore this opportunity with us, please fill the online application form by clicking [here](#). (You can also click on the “Apply Now” button at the end of the Job Description displayed on the website).

**Contact**

Please write to us at [hr@iihs.co.in](mailto:hr@iihs.co.in) if you need any clarifications while filling the online application form.



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