Role: Research Scientist (IOT)

Experience: Electrical Engineering, Robotics, Computer Science, or a related field with a focus on IoT or embedded systems

Location: Kozhikode, Kerala

About Airawat Research Foundation

Airawat Research Foundation (ARF) is a Section 8 company established to advance a mission of national importance leveraging AI for sustainable urban transformation. ARF serves as the institutional vehicle for the prestigious Centre of Excellence in Artificial Intelligence for Sustainable Cities, led by IIT Kanpur, under the aegis of a consortium selected by the Government of India.

As India rapidly urbanizes, cities face mounting challenges related to **air quality, water scarcity, urban governance, energy efficiency, mobility, solid waste management, and urban flooding etc**. ARF is committed to addressing these pressing issues through state-of- the-art, AI-enabled solutions that combine cutting-edge research with real-world implementation.

With a strong focus on technology-driven public service delivery, ARF collaborates with academic institutions, government stakeholders, industry partners, and civil society to develop scalable, policy-aligned innovations.

Being part of ARF means contributing to one of India's most forward-looking initiatives in the use of AI for urban sustainability. It offers a dynamic, interdisciplinary, and high-impact environment where technology meets governance, and research meets real-world change.

About the Role:

ARF is seeking a highly motivated and skilled Research Scientist (IoT) to join our team. This role is crucial for advancing our mission to develop cutting-edge solutions for civil infrastructure management using an AI-powered platform. You will be at the forefront of designing and building customized UAVs and wireless sensor systems to revolutionize structural health monitoring (SHM). Your work will directly influence the efficiency and accuracy of our inspection processes, pushing the boundaries of what is possible in this field.

Key Responsibilities:

1. Design, build, and optimize specialized UAVs for autonomous and high-coverage inspection.
2. Lead the development and deployment of wireless sensing systems for long-term and continuous SHM
3. Collaborate with the structural engineering team to design and optimize the end-to-end workflow for structural inspections, from data capture to final analysis.
4. Assist in developing and enhancing the digital twin platform, ensuring seamless integration of AI-powered analysis and visualization.
5. Manage and preprocess large datasets of high-resolution images and sensor readings to ensure model accuracy and efficiency.
6. Strong programming skills in Python, with experience in deep learning frameworks like TensorFlow or PyTorch. Knowledge of computer vision libraries (OpenCV) and data manipulation libraries (NumPy, Pandas, web GL, Web GPU) is essential.
7. Work closely with the Lead Scientist and other engineers to translate research findings into practical, deployable solutions.
8. Collaborate with software engineers to deploy research models into the main product platform.
9. Publish research findings in reputable journals and present at industry conferences.
10. Contribute to patent applications and intellectual property development.

Qualifications and Experience

A Master's degree or Ph.D. in Electrical Engineering, Robotics, Computer Science, or a related field with a focus on IoT or embedded systems. Excellent analytical and problem-solving skills with a strong ability to work independently and as part of a team. Strong analytical and practical problem-solving skills, with a willingness to work hands-on with UAVs on field.

Compensation: Commensurate with qualification, experience and market