Role: Research Engineer (AI)

Experience: any relevant branch with a strong background in developing and implementing AI/ML models

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 Research Engineer (AI) to join our R&D team. You will play a crucial role in developing cutting-edge AI-powered solutions for civil infrastructure management, specifically for a structural asset management platform that uses UAVs (drones) and computer vision to inspect bridges and dams.

This position is ideal for an individual with a passion for applying artificial intelligence and machine learning to solve real-world engineering challenges. You will work on designing and implementing AI models to analyze visual and sensor data, identifying anomalies and defects in civil structures. Your work will also involve developing the workflow for structural inspections and contributing to the creation of our digital twin platform.

Key Responsibilities:

1. Design, train, annotate the data, and fine-tune AI models for anomaly detection and defect identification in civil structures using visual (UAV imagery) and sensor data.
2. Collaborate with the structural engineering team to design and optimize the end-to-end workflow for structural inspections, from data capture to final analysis.
3. Assist in developing and enhancing the digital twin platform, ensuring seamless integration of AI-powered analysis and visualization.
4. Manage and preprocess large datasets of high-resolution images and sensor readings to ensure model accuracy and efficiency.
5. 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.
6. Work closely with the Lead Scientist and other engineers to translate research findings into practical, deployable solutions.
7. Collaborate with software engineers to deploy research models into the main product platform.
8. Publish research findings in reputable journals and present at industry conferences.
9. Contribute to patent applications and intellectual property development.

Qualifications and Experience

A B.Tech in any relevant branch with a strong background in developing and implementing AI/ML models, preferably in computer vision. Excellent analytical and problem-solving skills with a strong ability to work independently and as part of a team.

Compensation: Commensurate with qualification, experience and market