EDITH COWAN UNIVERSITY

PROJECT DETAILS

Project Title:

Artifact Correction in Medical Images for AI-Driven Screening.

Project Summary:

Medical X-rays often contain artifacts such as casts, fractures, implants, or noise, that limit their use for automated disease classification. This project aims to develop deep learning methods to transform imperfect X-rays into AI-ready images while preserving critical disease features. This is crucial given the scarcity of medical image data. The work will enable opportunistic screening, for example detecting osteoporosis, from routine clinical images. Beyond a single disease, the project advances real-world computer vision for handling imperfect medical images.

Preferred Applicant Skillset:

We seek candidates who have completed a Master by Research with a strong background in computer vision, deep learning, or medical image analysis, along with proficiency in Python and libraries such as PyTorch or TensorFlow. Experience with generative models (e.g., GANs, diffusion-based architectures) is highly desirable. Familiarity with medical imaging, particularly X-rays, is advantageous. Strong research skills, experimental design, and scientific communication are essential. The ideal candidate is self-motivated, collaborative, and passionate about advancing AI-driven clinical imaging solutions.

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