CLSA Approved Project

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Project Title
Research collaboration that informs the understanding of the development and prevention of vertebral fractures, bone health and age-related outcomes in population-based studies

Project Summary
Vertebral fracture assessment (VFA), also called IVA, is a very low radiation imaging technique used to identify previously undiagnosed vertebral fractures at the time of bone mineral density measurement. The CLSA VFA images have not been reviewed by medical experts for presence/absence of vertebral fractures. The current project will use convolutional neural networks (CNNs), specialized machine learning models for image analysis, to efficiently label CLSA Visit 1 VFA images with presence/absence of vertebral compression fractures. The data generated by this project will be integrated into the CLSA database for use by other researchers.

Keywords
Vertebral fracture assessment, machine learning, bias; ethnicity, osteoporosis