

Welcome to your Jupyter Book

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Ultrasound hip fracture screening tool

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This is a small sample book to give you a feel for how book content is structured. It shows off a few of the major file types, as well as some sample content. It does not go in-depth into any particular topic - check out [the Jupyter Book documentation](#) for more information.

Check out the content pages bundled with this sample book to see more.

Introduction

This notebook serves as formal documentation for the exploration of the US Hip Dataset and outlines the procedures used in data and image collection. The dataset contains ultrasound images of various sample types and their corresponding metadata.

Data Exploration Summary

The dataset comprises 20,082 entries with multiple columns that include sample type, presence of bone, US probe orientation, anatomical location, and presence of fracture. A detailed statistical and visual summary has been conducted to understand the dataset's characteristics.

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Methodology for Data Collection

The data was collected through a meticulous process that involved:

1. Identification of Sample Types
2. Ultrasound Scanning Procedures
3. Metadata Annotation
4. Quality Checks

Each image is associated with a unique identifier and contains metadata that aids in the categorization and future analysis.

Methodology for Image Collection

The images were collected using a high-resolution ultrasound probe, following the guidelines below:

1. Probe Calibration: Ensuring the ultrasound probe is calibrated for accurate imaging.
2. Patient Positioning: Ensuring the patient is in the appropriate position for imaging.
3. Image Acquisition: Using the ultrasound probe to capture the images.
4. Image Annotation: Annotating the images with relevant metadata.

The image files are stored in a structured directory and are named systematically to facilitate easy retrieval.

Conclusion

This notebook provides a comprehensive overview of the US Hip Dataset, including the methodologies employed for data and image collection. It serves as a foundation for future research and analyses.