The Challenge of Automated Chest X-ray Report Generation

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- Radiology report writing is time-consuming and requires expert knowledge.
- Manual reporting can lead to inconsistencies and human error.
- Growing demand for automated, accurate, and efficient medical imaging interpretations to assist radiologists.

Solutions

- Developed an end-to-end deep learning system to generate chest X-ray reports from images.

- Combined EfficientNet-B4 for image encoding and BioGPT for clinical language generation.

- Deployed via a user-friendly Streamlit web application.

Features:

Upload X-ray images
Download generated reports

Technologies and Frameworks Used

- **Programming Language:** Python 3
- **Deep Learning Libraries:** PyTorch, Hugging Face Transformers
- **Vision Model:** EfficientNet-B4
- **Language Model:** BioGPT
- **Web Application:** Streamlit
- **Other Tools:** pandas, torchvision, tqdm, argparse

Demo and the link to our project Git repo

Git：https://github.com/AARONYOUNG2023/2025Spring_DS_Capstone_Group2