NeuroRad AI

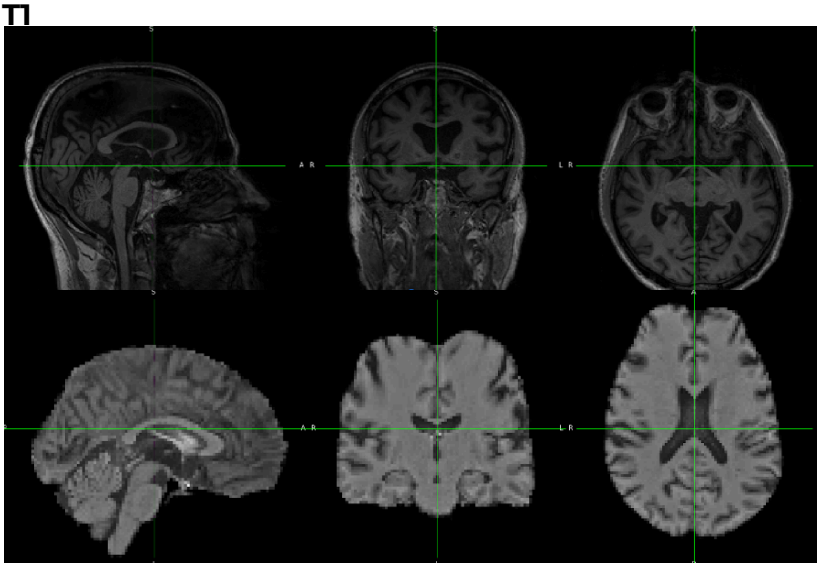
Transforming Alzheimer's Diagnosis with AI.

KEY TAKEAWAYS & UPDATES:

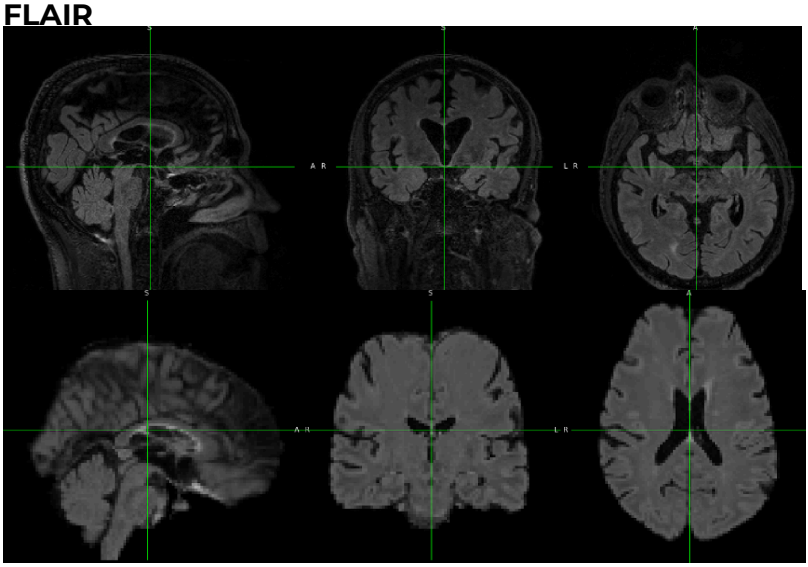
- Image pre-processing is 28% of the way done - each patient file takes ~1 hour to complete, and is expected to be completed by 5/22/2024.
- Preliminarly analysis on pre-processing shows that standardization of images is adequate, and all images are within a consistent expected size/tissue volume

VISUAL CONFIRMATION OF PROCESSING

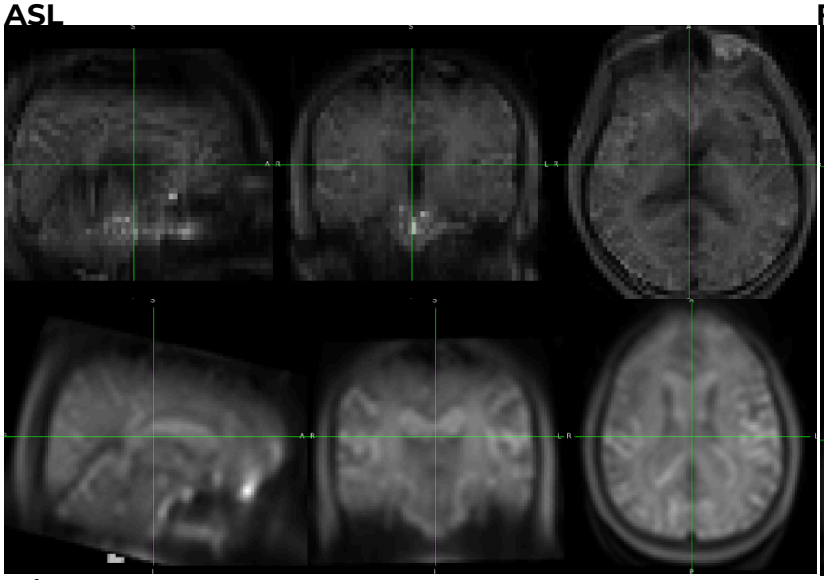
T1



FLAIR



ASL



FDG-PET

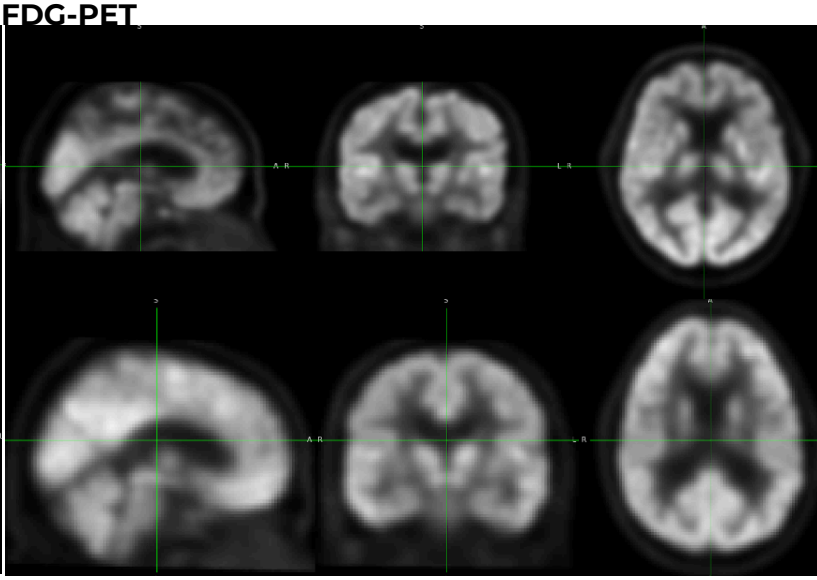


Figure: Successful alignment of T1, FLAIR, ASL, and FDG-PET scans. Visual confirmation is crucial to validate the accuracy and consistency of our automated processing pipeline, ensuring reliable data for subsequent analysis and AI model training.

FUTURE DIRECTIONS

- Use processed data to train AI model, analyze quality of AI-generated images
- Involve radiologists in assessing quality and viability of AI-generated images
- Train model with different combinations of scan types - assess tradeoff between necessity of scan types in producing quality images vs size of training set

- Mentors and Advisors -

Dr. Hesam Jahanian: Assistant Professor of Radiology, Project Advisor, recognized by the International Society of Magnetic Resonance in Medicine
Peter Beidler: Senior Medical Student, Machine Learning Engineer, Mentor
Dr. Rupak Rajachar: Master of Applied Bioengineering Program Director, Advisor

- Project Team -

Hannah Arey: Master of Applied Bioengineering Student, Engineer. Background in Alzheimer's research and experience in the AI industry.
Yoon Seo Orite: Master of Applied Bioengineering Student, Engineer. Background in signals processing and medical imaging modalities.