

AI-enabled imaging acquisition, image transformation, and dose reduction

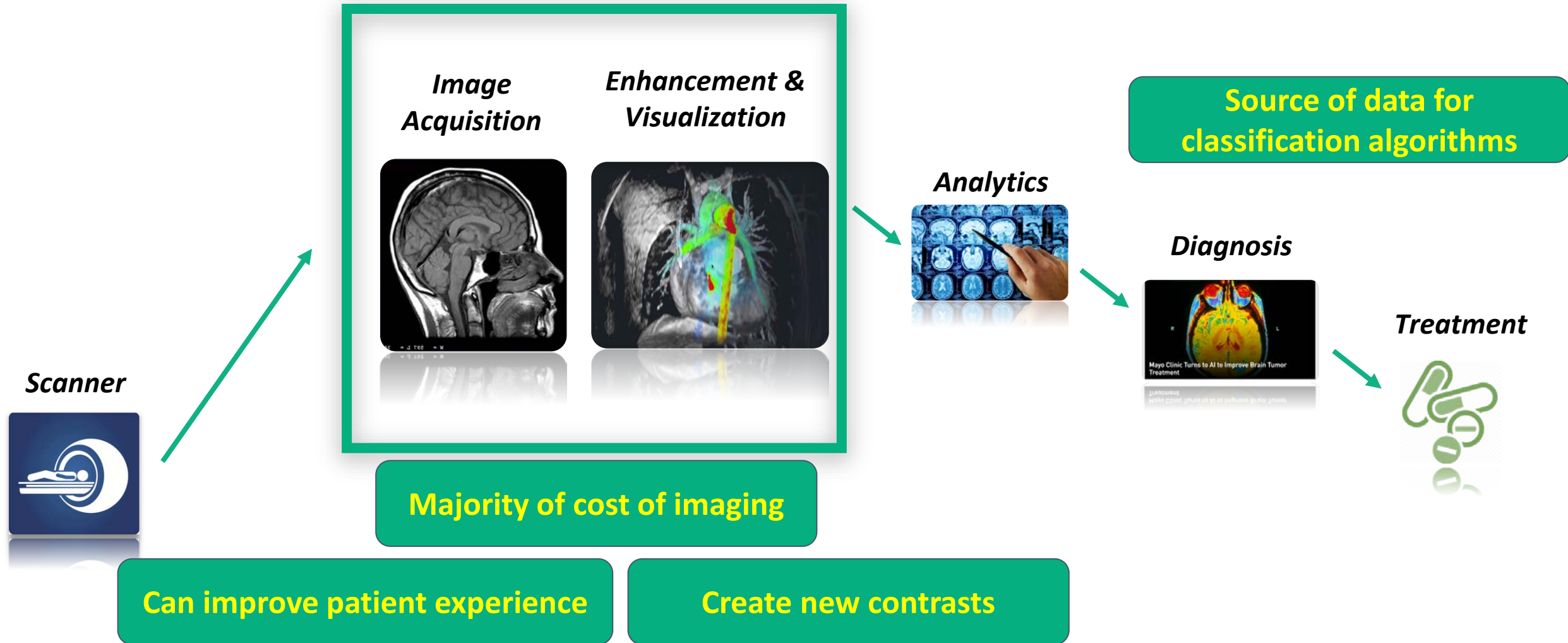
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@GregZ_MD

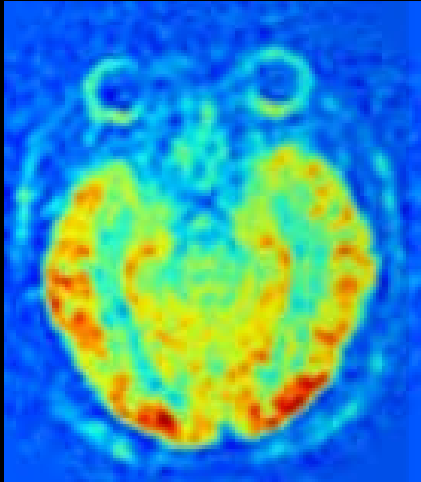


Radiology Value Chain



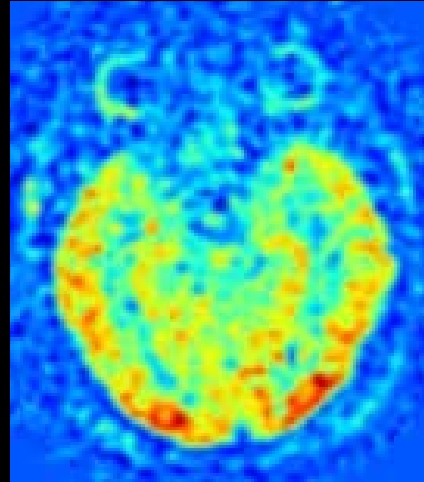
Improved MRI

8 min



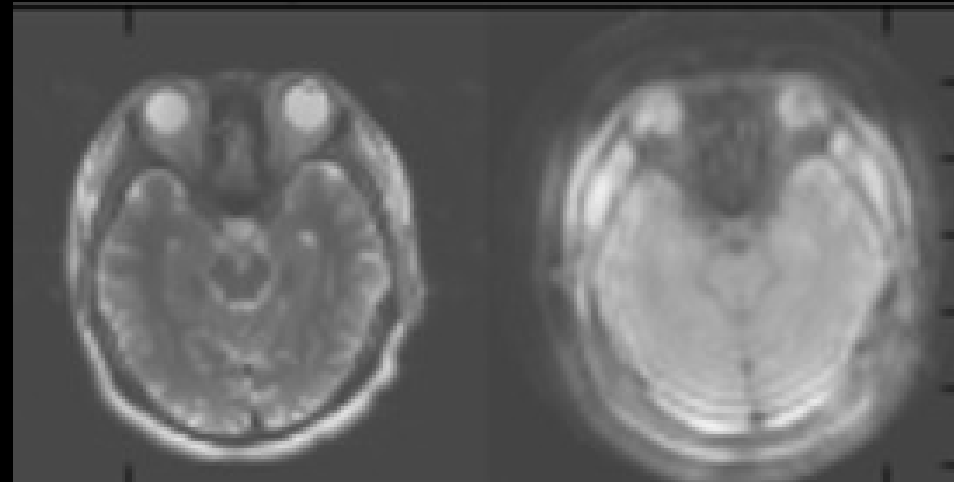
High SNR ASL

2 min



Low SNR ASL

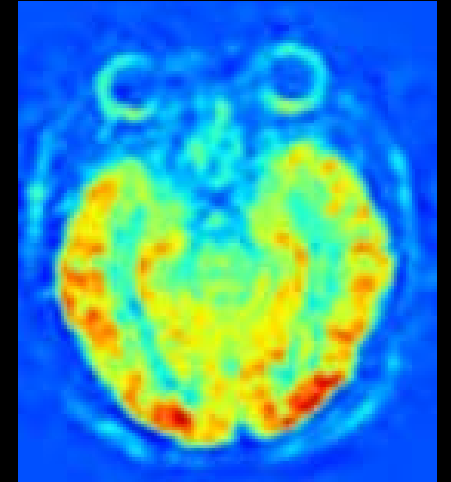
Deep Learning Model



T2 weighted

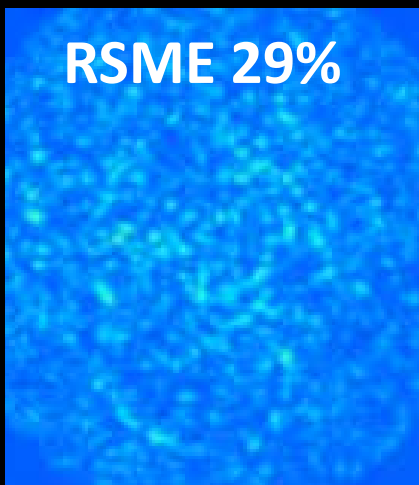
Proton density

2 min



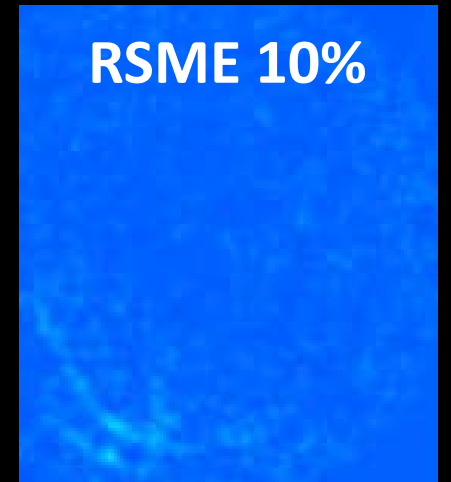
Synthetic ASL

RSME 29%



Error map vs High SNR

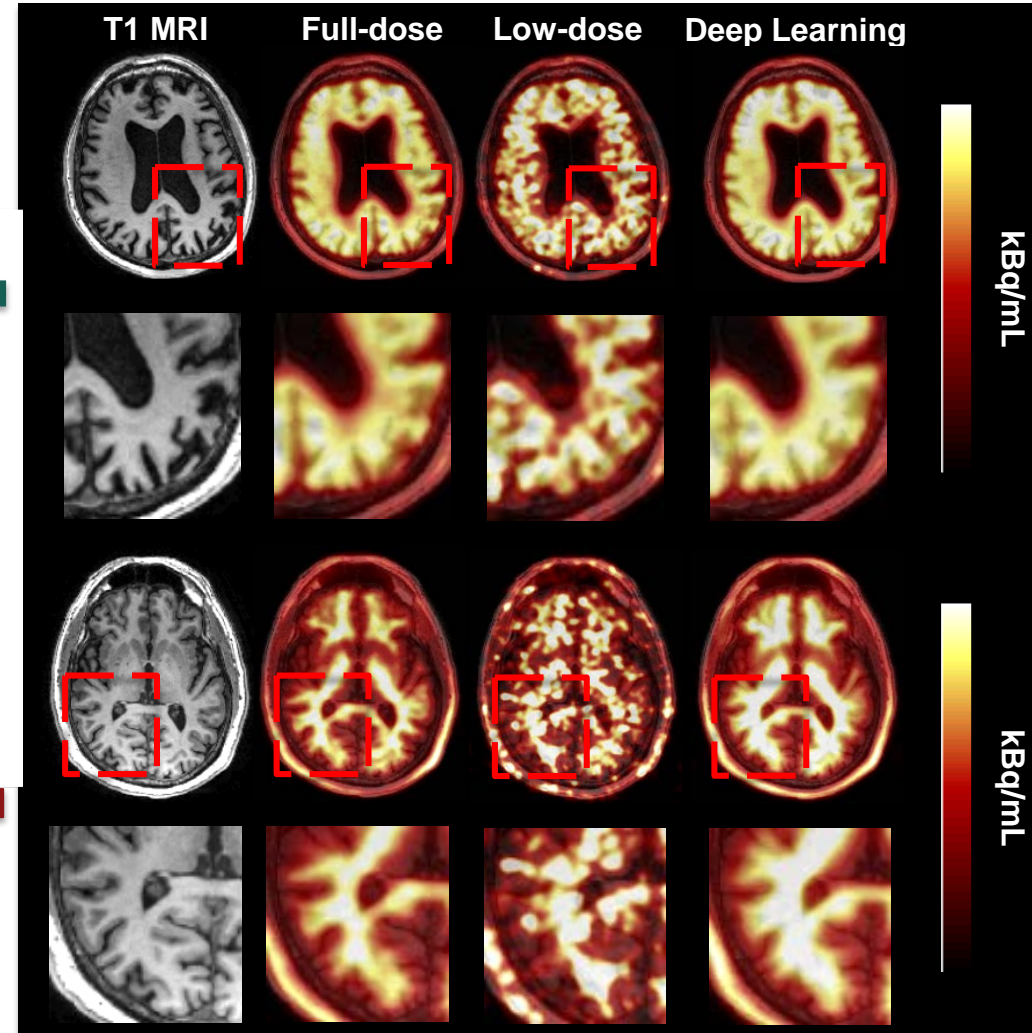
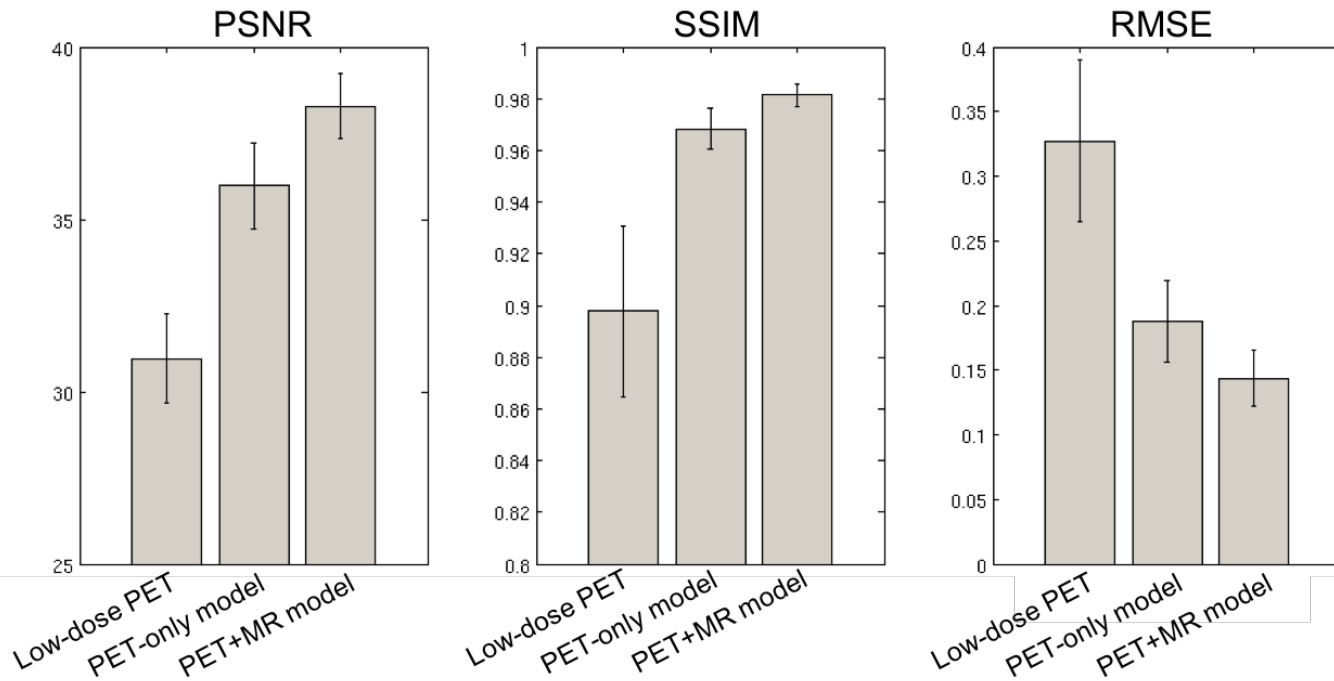
RSME 10%



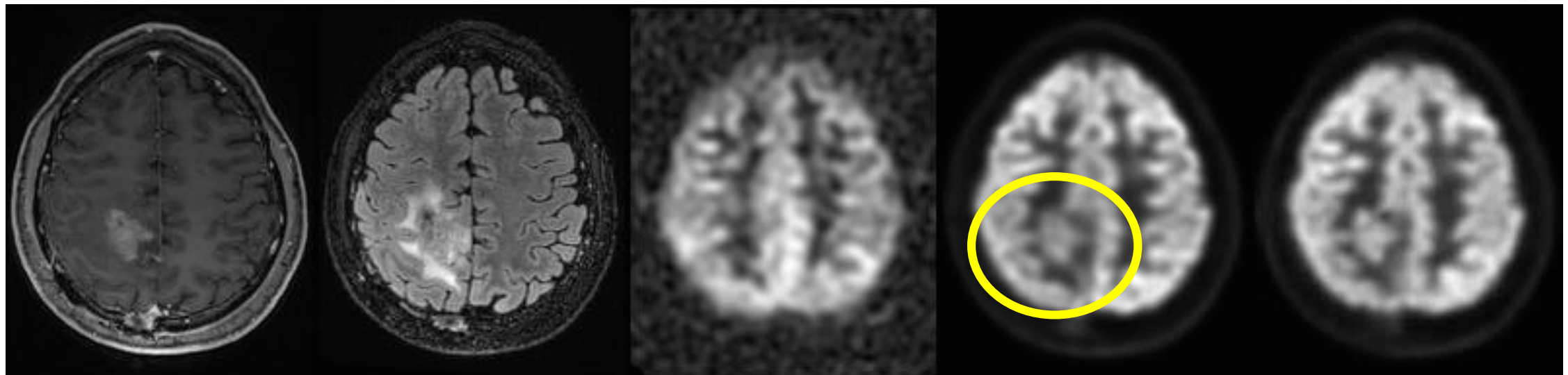
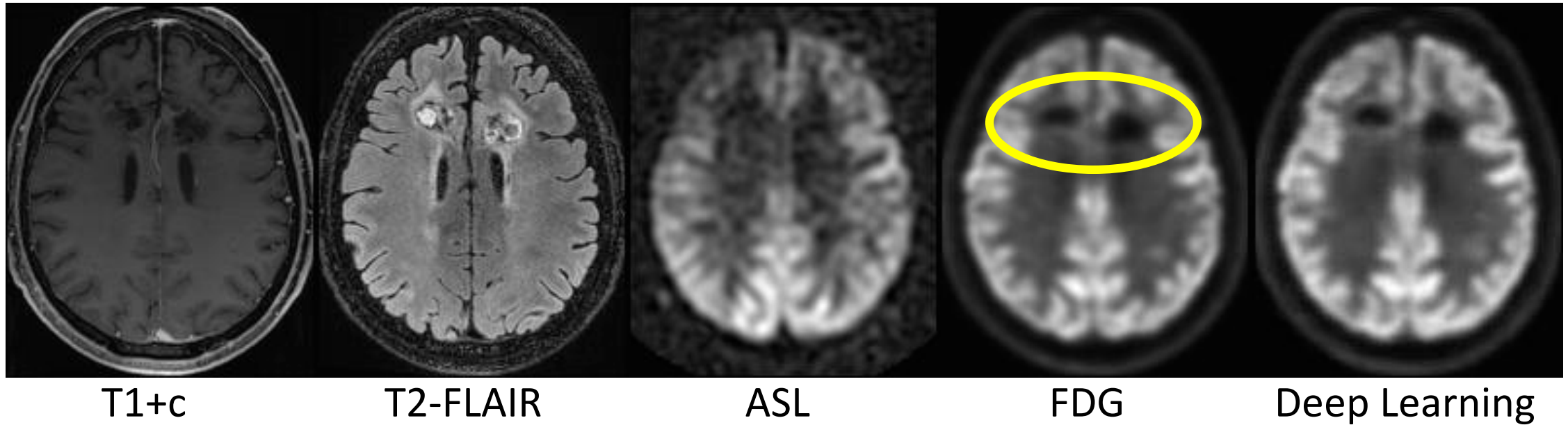
4-fold time reduction
3-fold RSME improvement

Amyloid Imaging for Alzheimer's Disease

AI enables 100x radiation reduction

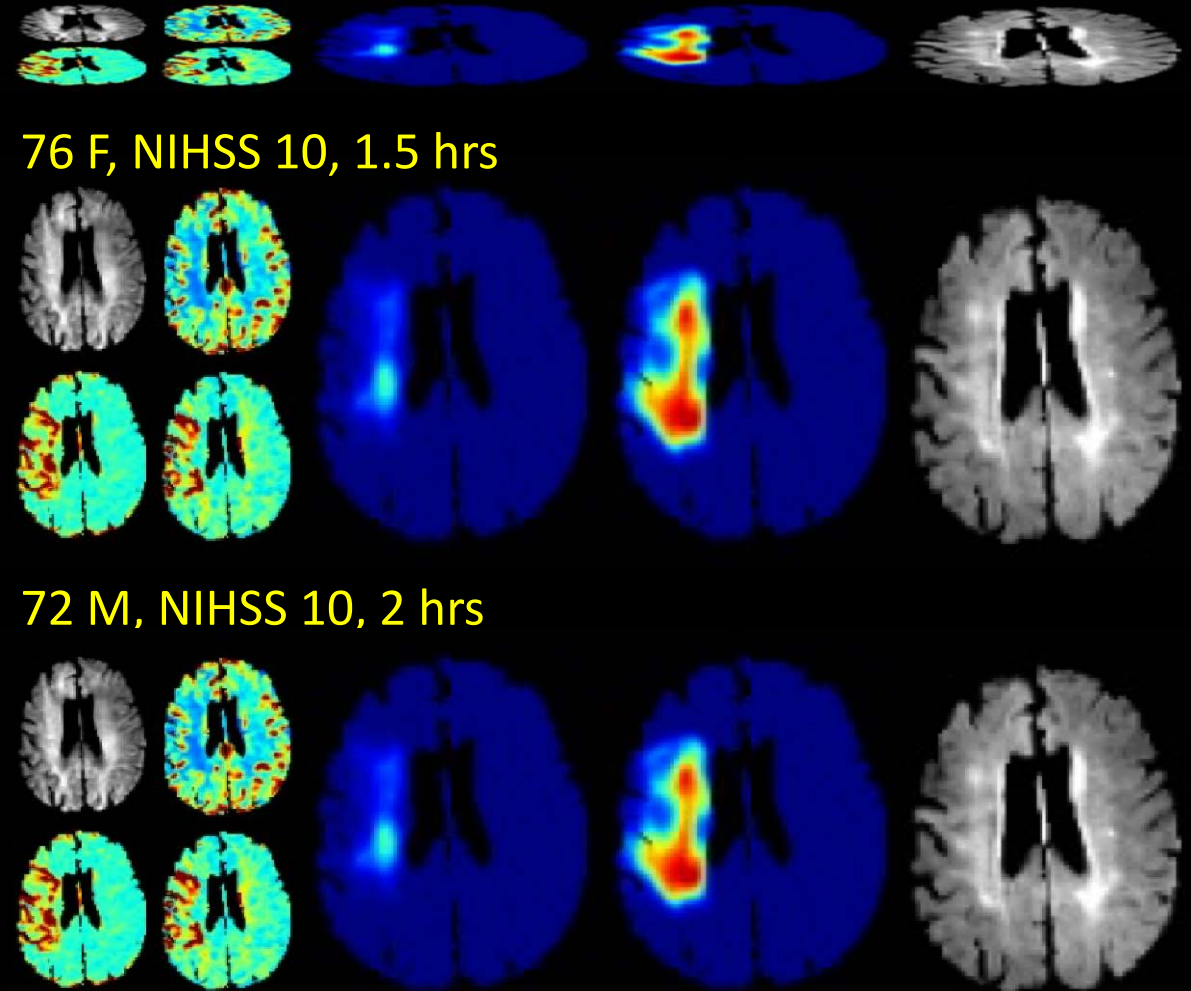


Zero-dose FDG Imaging



Treatment-specific Biomarker Predictions

- Train models for separate treatments
- Apply each to new patient
- Response to treatment at individual level
- Select those most likely to respond?
- Not limited to stroke 😊



Value of Predicting Images with AI

- Lots of "hidden" information in current imaging
- Change to change assumptions
 - Cost, speed, dose, safety
- Models trained to predict future imaging can be used for personalized treatment

