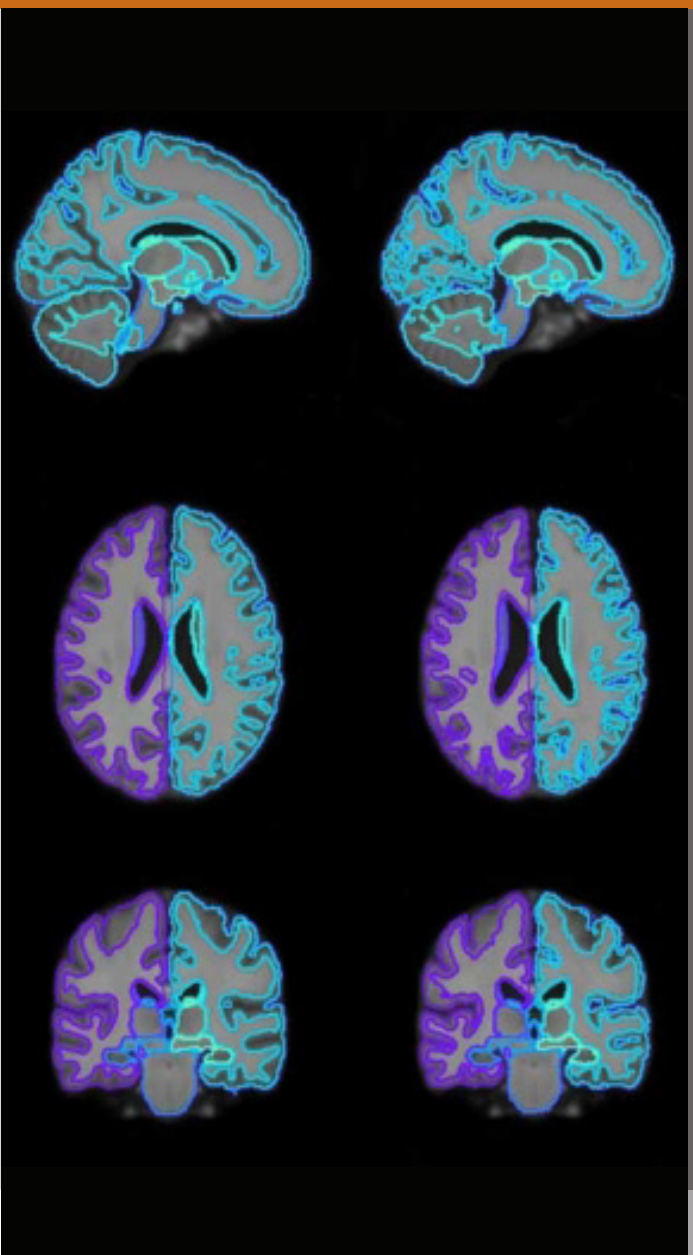
MIT CSAIL

DATA-DRIVEN INFERENCE GROUP

The MIT Data-Driven Inference Group (also known as the MIT Clinical and Applied Machine Learning Group) works toward developing machine learning and computer vision techniques to improve outcomes in medicine, finance, and sports.



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CSAIL /MIT

Location:
The MIT CSAIL Data-Driven Inference Group is located in the Ray and Maria Stata Center, Room 32G-966 at MIT.

Website:
ddig.csail.mit.edu

Research Group Address:
Data-Driven Inference Group
MIT CSAIL
77 Massachusetts Avenue
Cambridge, MA 02139

Research Vision

Our mission is to develop advanced computational techniques with clinical inspiration and use them for real-world applications, with a focus on medicine.

Areas of Research

- Predicting and reducing adverse medical events
- Matching patients to therapies and providers
- Creating non-invasive monitoring and diagnostic tools
- Improving telemedicine technologies

Research Activities

- Unsupervised learning for medical image recognition
- Anatomical priors in convolutional networks for biomedical segmentation
- Unsupervised data imputation

"We're looking at the data problem of how we can incorporate very long time series into risk scores, and the clinical problem of how we can help doctors identify patients at high risk after an acute coronary event. This intersection of machine learning and healthcare is replete with combinations like this — a compelling computer science problem with potential real-world impact."

Divya Shanmugam, PhD student

Industry Applications

- Big data
- Health care
- Computing and health
- Programming and software engineering
- Computer vision
- Fairness
- Optimization and causality in networks

In the News

- Researchers from the Data-Driven Inference Group developed an "atlas" image template for a model that quickly generates brain scan templates that represent a given patient population, reports MIT News.

- MIT News discusses a new CSAIL system that uses a patient's ECG signal to estimate the potential for cardiovascular death.

Current Prinicpal Investigators, Researchers, Postdocs, and Graduate Students in the Group

John Guttag
Adrian Dalca
Davis Blalock
Katie Lewis
Maggie Makar
Katie Matton
Emily Mu
Jose Javier Gonzalez Ortiz
Divya Shanmugam
Harini Suresh
Hallee Wong

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