

## Summary

SystemsThatLearn@CSAIL is a strategic Initiative that brings 10 member companies together with 37+ CSAIL researchers to advance impactful research and explore new technological solutions. Companies collaborate to provide real-world applications and drive impact on the full spectrum of research in systems and machine learning. SystemsThatLearn@CSAIL accelerates the development of innovative human-like systems and creates new tools to realize the potential of learning systems.

## How It Works

Each member company of the Initiative has a seat on the executive board along with faculty directors. Among the many benefits of the Initiative's structure is the ability to be involved in multiple projects simultaneously, for a similar cost of sponsoring a single project outside of the Initiative.



## Current Members

- **British Telecommunications (BT)**
- **BASF**
- **Element AI**
- **Ernst & Young (EY)**
- **Facebook**
- **JPMorgan**
- **Microsoft Research**
- **Nokia Bell Labs**
- **Salesforce**
- **Scotiabank**



## Contact Us

Are you interested in learning how you can connect with CSAIL and become a member of the Initiative?

Contact Callie Mathews to learn how your organization can gain access to CSAIL research through [CSAIL Alliances](#).

## Callie Mathews

Senior Client Relations Coordinator,  
MIT CSAIL Alliances  
cmathews@mit.edu



## Key Research Areas

Already seen in practical applications such as autonomous vehicles and personalized health care, learning systems have the potential to transform industries and societies. The goal of the SystemsThatLearn@CSAIL initiative is to accelerate the development of systems and applications that learn in key areas:

- Artificial intelligence
- Machine learning
- Systems
- Privacy and Security
- Natural language processing

## Projects in Progress

SystemsThatLearn@CSAIL has funded 31 projects totaling more than \$2M dollars over the past 3 years. Topics have included machine learning robustness and interpretability, explainable AI, machine learning guided 3D modeling, robust architectures, deepfake detection, interpretable ML, and more.

*Click on the project titles to view the papers.*

- Actionably Interpretable ML
- Deepfake Detection: Building Deepfake Caricatures
- Enriching Databases with Microservice Based Machine Learning
- Robust intelligence for Explainable AI
- Geometry, Probability, and Data: Practical and Scalable Robust Learning
- Networks that Learn: Distributed Anomaly Detection to Reduce Denial of Service Vulnerabilities
- A Framework for Privacy-preserving Learning of Shared Models
- Robustness via Robust Architectures
- Learning to Compile Edge Vision & Learning Code with Halide
- Datacenters for ML: Accelerating Distributed Machine Learning Training in Datacenters
- LaVilla: An ML-Enhanced Data Lake
- Exploration for Next-Generation Deep Neural Network Accelerators