

MIT ANALYTICS LAB (A-LAB)

ACTION LEARNING SEMINAR ON ANALYTICS, MACHINE LEARNING, AND THE DIGITAL ECONOMY

In the MIT Analytics Lab (A-Lab), student teams select and deliver a project using analytics, machine learning, and other methods of analysis to develop results that diagnose, enable, or uncover solutions to real business issues and opportunities. The course, which runs each fall semester, is presented by the MIT Initiative on the Digital Economy (IDE) and is part of the MIT Sloan School of Management's suite of Action Learning offerings. The course is led by IDE faculty **Erik Brynjolfsson** and **Sinan Aral**.

During its first **5 YEARS**, A-Lab has attracted a total of **300 STUDENTS** from **12 MIT DEPARTMENTS** to work on **90 PROJECTS** spanning IoT, platforms, finance, marketing, e-commerce, retail, manufacturing, medical supply chains, workplace safety, and global health.

PROJECTS

We are looking for projects that fit in a variety of industries and sectors; address a diversity of problem types; require advanced depth of analysis; and have ensured availability of clean and rich data at the outset of the project. We also seek to closely match the students' capabilities and variety of skills, experience, and interests. The best projects require descriptive, predictive, or causal analysis and have a few things in common:

- Large “n” with clean data – 100,000 or more records with little missing data
- A real problem that can be solved (or mitigated) with analytic efforts
- Clear relevance of the project to organizational success
- Well-defined and scoped to be “shovel-ready” – students have just over two months to complete the project

Many, but not all, projects will be selected to advance to the fall semester, and a smaller subset of those will be matched to a team comprised of three or four students.

PAST PROJECTS

Challenge: Determine the effectiveness of a leading paint manufacturer's marketing strategy across South America using thousands of raw unlabeled images of storefront displays.

- **Solution:** The student team built a ready-to-use, customizable, image recognition tool to measure in-store brand presence. The tool will inform how the company can better allocate its marketing budget and allow decision makers to further explore the effect of visual presence on B2B and B2C sales, product presence, and pricing.

Challenge: Leverage spending data to recommend personalized interest rates of credit card loans from a large retail and financial services group.

- **Solution:** The team identified predictive variables to pre-emptively detect the transition to loaner behavior and to improve loan conversion efficiency. Given the robust nature of the dataset, the students recommended that the company collaborate with government to identify and assist non-creditworthy individuals susceptible to predatory loans.

CALL FOR PROPOSALS

Organizations are invited to provide their data, time, and insights to enable student teams to develop actionable solutions and impactful findings that provide value far beyond the fall semester.

We encourage interested organizations to take advantage of this opportunity and join in what has proven to be one of the most popular courses among MIT students pursuing careers in data science.

There is no fee for proposing a project, but project sponsors are responsible for covering any project-related expenses.

If your organization would like to submit a proposal for consideration, please contact **Susan Young (susany@mit.edu)**.

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STUDENTS

A-Lab is a graduate-level course, open by selective admission to students within Sloan and across other schools at MIT.

All admitted students have completed relevant coursework drawing from statistics, computer science, management, and economics. Students are proficient in at least one programming language (typically Python or R) and have a strong background in machine learning and predictive analytics.

Each team is mentored by an MIT IDE-affiliated faculty member, research scientist, postdoc, or PhD student, and teams have regular check-in meetings with their project sponsor across the semester.

2019 TIMELINE

We are available to discuss the course and the requirements for proposing a project, as well as advise on how to position your project idea for maximum appeal to the students.

JULY 18

PRELIMINARY PROPOSALS DUE

Preliminary proposals (using the required template, and including data samples) are due.

AUGUST 15

FINAL PROPOSALS DUE

Final proposals are due, as are jointly executed MIT Sloan non-disclosure agreements. Final proposals will be distributed to all students enrolled in the course prior to the first class session.

SEPTEMBER 19

PITCH DAY AT MIT

Representatives from each proposing organization pitch their project in person, then meet and mix with students as they finalize their project preferences.

SEPTEMBER 26

PROJECT-TEAM MATCHING FINALIZED

Projects are matched to teams based on student bids and ranks of projects.

DECEMBER 13

FINAL PRESENTATIONS AT MIT

Teams present their findings to an audience of experts, entrepreneurs, and executives during a special class session; project sponsors are invited to send representatives to observe and participate in the discussions of all presentations.

TO LEARN MORE ABOUT THE PROGRAM AND PAST PROJECTS, VISIT [IDE.MIT.EDU/ANALYTICS-LAB](https://ide.mit.edu/analytics-lab)