



**ARTIFICIAL INTELLIGENCE APPLICATION IN BUSINESS  
FOR EXECUTIVES & PROFESSIONALS**

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IEOR Emerging Area Professor Award  
Sutardja Center



**Opening  
Comments**

**Day 1:  
Overview and  
Project Start**

**Day 2:  
Workshop and  
More**

Ikhlaq Sidhu, content author

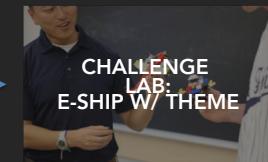


Ikhaaq Sidhu, content author

## SUTARDJA CENTER AT UC BERKELEY

**Story, Mindset,  
Behavior,  
Diverse Team  
Formation, eg  
Challenge Lab**

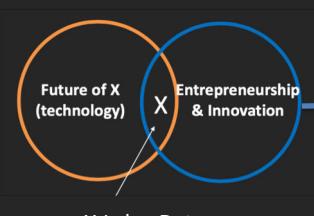
CASE STUDY / THEORY



**Powerful Tools &  
Implementation  
Behaviors, eg  
Data-X**



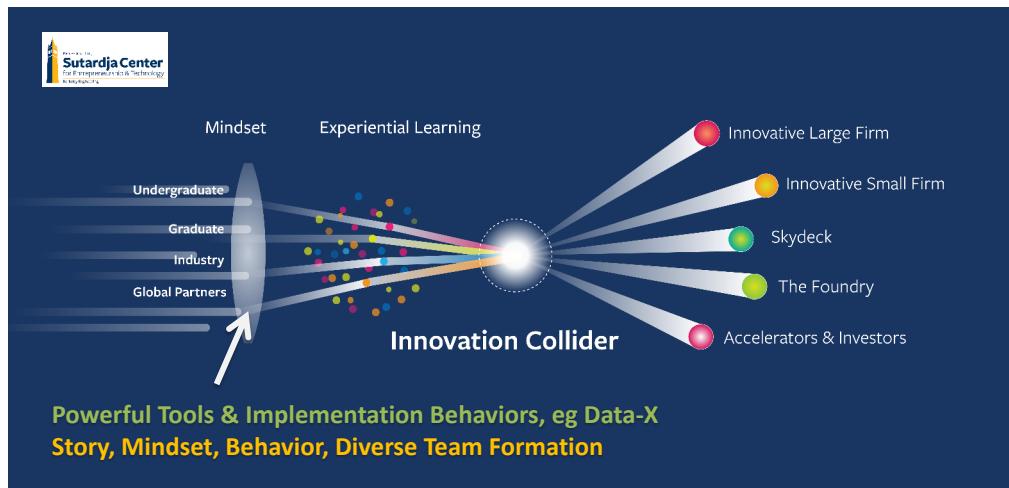
Future of X (technology)



SYNERGY  
WITH  
EXECUTIVE,  
& GLOBAL  
STUDENT  
OPPORTUNITY

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# The Entire Center is an Innovation Collider



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## SUTARDJA CENTER METRICS AT A GLANCE

### Undergraduate and Graduate Courses: 1500+ students/year

- Main Courses: 95/195 Newton Lecture, 191 Tech. Ent, 185 Challenge Lab (5+ sections), 186 Product Management, 135 Data-X, 171 Leadership, 192 Bootcamp, 290 MTI, 190G Student Fellows, 190C Collider



### Professional Programs: 100 Execs/year

- Engineering Leadership 50 students /year (Spring)
- SV Innovation Leadership Week 50 students /year (Fall)



### X-Labs: Funds courses and applied research projects

- Data, Blockchain, Sustainable Food
- Each has a parallel courses, and funds projects



### Global Ecosystem: 15 Global Academic Partners

- Engagement, Startup Semester (e.g SRM), Start-Up Fellows

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**IEOR 135/290 Applied Data Science with Venture Applications**

Data-X is a Lab and Course

## IEOR 135/290 Applied Data Science with Venture Applications Sample Data-X Projects

- Detection of fake news
- Prediction of long-term energy prices to solve Wall Street problem
- Prediction applications for stock market, sports betting, and more
- AI for crime detection, traffic guidance, medical diagnostics, etc.
- A version of Zillow that is recalculated with the effects of AirBnB income

and many many more...

## What is actually in this class?

- The **ML stack** use most commonly used in creating ML/AI/Data applications
- Application and **systems** viewpoint of data and ML
- **Implementation, architecture**, and relevant process to build anything
- Statistical, rule based, and **hybrid decision systems**
- Connection with relevant **mathematical foundations** (entropy, correlation, spectral, LTI, basic prediction, classification)
- Practical insight into **advanced techniques** and tools: (eg. CNNs, NLP, scraping, recurrent networks, etc.)
- System **modeling** for data applications

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### How the Data-X Course Works:

**Insightful Story**

**Solution**

Lectures: Theory, Algorithms, and  
CS Tools & Code

Brainstorm  
Challenge  
and Validate (4)

Propose Low  
Tech  
Solution (1)

Execute \* Iterate  
Expert Feedback, Reflections  
Agile Sprint (8)

Demo  
or Die  
(1)

Open-ended, real-world project: Typically 5 students, with available advisor network

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Many Course Resources Are Already Available at [data-x.blog](http://data-x.blog)  
For students and mentors

## See [data-x.blog](http://data-x.blog)

- Lectures and Slides
- Code Samples
- Articles and Readings
- Projects
- Mentors

The screenshot shows a website with a blue header banner featuring the text "DATA-X AT BERKELEY" and "A Framework for Digital Transformation". Below the banner is a navigation menu with links: Home, Resources, Syllabus, Posts, Labs, Advisors, and Contact. The main content area is titled "SYLLABUS" with a "Edit" link. Below this, it displays course information: "Applied Data Science with Venture Applications" and "IEOR 135/ 290-002". It also lists the "Instructor: Ikhlaq Sidhu" and "Department of Industrial Engineering & Operations Research". At the bottom, it indicates "3 Units, Lecture and Lab". There is a small edit icon and three dots icon in the bottom right corner of the content area.

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## Our Agenda and Purpose

1. Understand Data + AI: Technical and Business Perspective
2. Project / Workshop: Scope your objectives and issues
3. Additional Goals:
  1. Meet and learn from each other
  2. Diversity in perspective
  3. Pay it forward
  4. Global resources
  5. Staying connected

Why: Relevance to Organization:

Business Models & Strategy, Innovation Leadership

What: Technology

Theory, Frameworks  
System Architecture

How: Implementation Tools

ML Stack, Code

How: Implementation with Innovation Behaviors

Process, Agile Analytics, Hypothesis, Measures

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End of Section

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