Welcome to the world of Econometrics

This is me!

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Department(s):

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Curriculum Vitae

Education

PhD, Economics, Arizona State University, 2017

Master, Economics, Simon Fraser University, 2013

MBA, Sharif University, 2012

Industrial Engineering, IUST, 2009

Biography

Pedram Jahangiry, PhD, CFA, is an assistant professor in the Economics and Finance Department of the Jon M. Huntsman School of Business at Utah State University. Prior to joining the Huntsman School in 2018, Pedram was a research associate within Financial Modeling Group at BlackRock NYC. His research is involved in machine learning applications in finance, empirical asset pricing, and factor models.

Meet The TAs

Poorya Mehrabinia
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Big picture

What are we trying to do as a researcher?

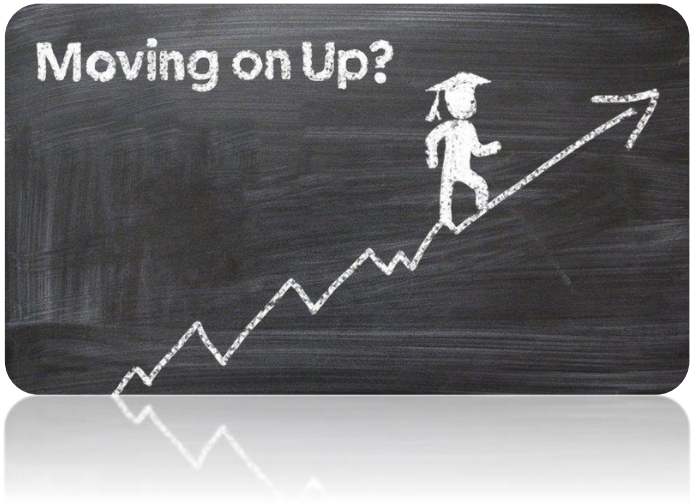
Solve real world problems, right?

Is there a theory?

What is the relationship between

- Sales and advertisement / R&D expenditure / seasonality / industry / … ?
- Quantity demanded and price / income / technology / price of competitors / … ?
- Wage and education/ age/ gender/ experience/ …?

A simple example

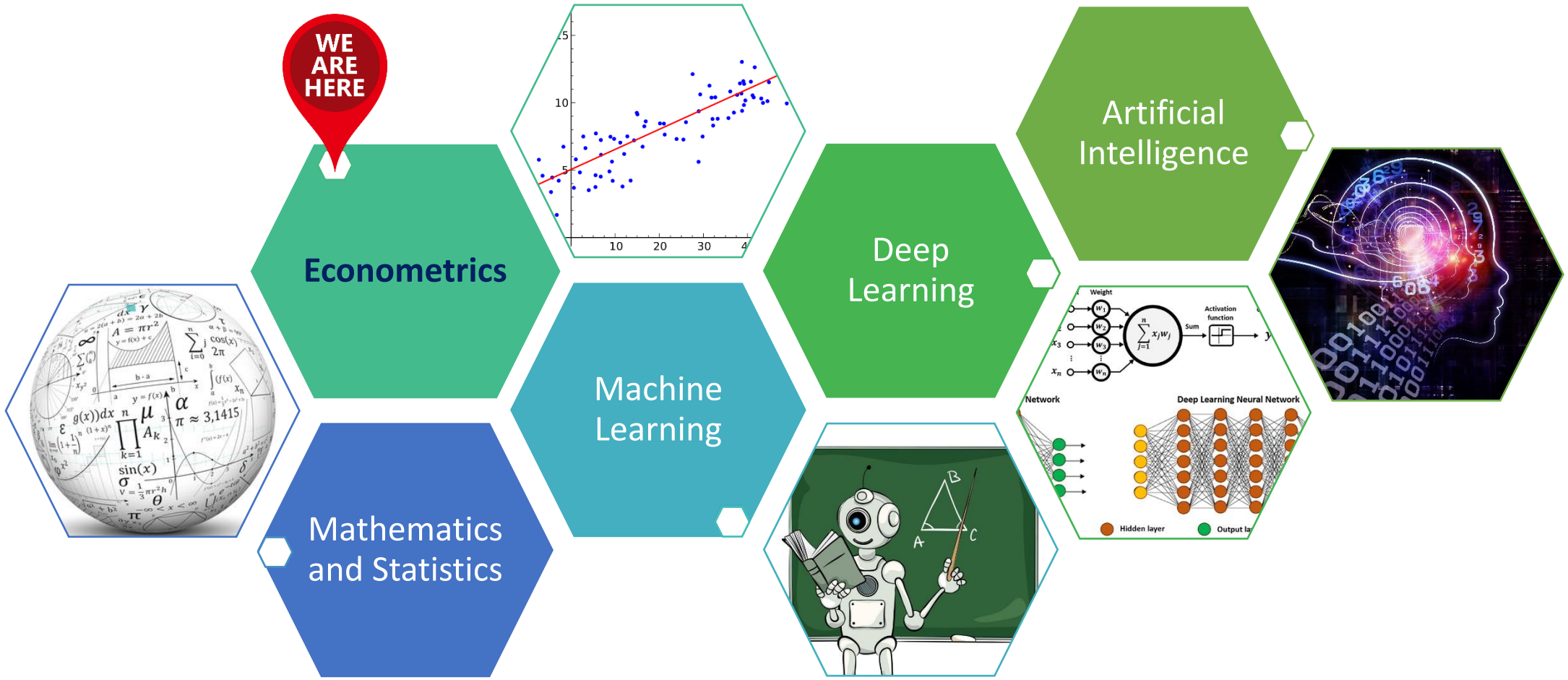


- Let's see if we can predict your future salary! (is there a theory?)
- What are the drivers:
  - Education, age, experience, IQ, …
  - Ethnicity, race, gender, …
  - Industry, location, working hours, …
- Let's build a model (assuming a linear functional form!)

$$wage = \beta_0 + \beta_1 educ + \beta_2 age + \beta_3 exper + \beta_4 IQ + \cdots + \beta_k hours + u$$

- Can you **interpret** this model? Do you care about the interpretability?
- Can you make **predictions** using your model?
- Can you make this functional form more flexible? What are the caveats?

Where we are?


WE ARE HERE
Econometrics
Mathematics and Statistics
Machine Learning
Deep Learning
Artificial Intelligence
Weight
Activation function
Sum
Network
Deep Learning Neural Network
Hidden layer

My Goal!

1. Enable you to become intelligent readers of others' econometric analysis. Go beyond accepting all results at face value!
2. Teach you to conduct elementary econometric research.
3. Prepare you to take more advance courses like machine learning and deep learning.

Remember!

With the potential for students to learn basic content (e.g., terminology, calculations, etc.) in a virtual-based setting, **classroom time will be used more to make mistakes in a safe environment**, reason with others, brainstorm, and take part in other critical thinking exercises.

The Syllabus