

Give It A Go

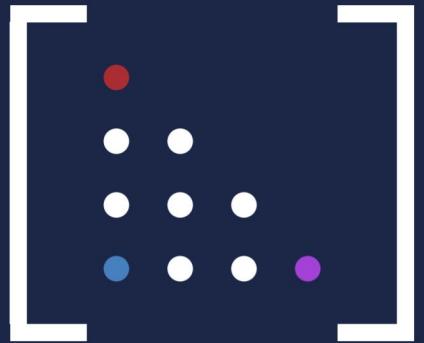
Wed 30/09/2020 14:00 - 15:00 BST



LSE SU
**DATA SCIENCE
SOCIETY**

Agenda

- Our mission
 - What is data science and why you should care?; DEMO - 5 mins * 3 examples (econ, light hearted)
 - Data Science towards your careers and interests
 - How do I get started?
- What do we do?
 - Community
 - Events -
 - Projects
- How can you get involved?
 - Society structure
 - Subcommittee recruitment!
 - Projects signup
 - Upcoming events
- (10min) Summary and Q&A
- We want to hear from you - Survey or send us a message



LSE SU

**DATA SCIENCE
SOCIETY**

Our Mission

LSESU Data Science Society

Reborn in 2020, expanding focus on Data Science, and tech in general

1. Build a data science **community** at LSE
2. Expose LSE students to data science and its **potential**
3. The third way : careers beyond just investment banking / consulting



LSESU
data science society

What is data science and why you should care

Domain Knowledge (Econ, Finance, Social Sciences) +

Statistical and computational techniques (programming) ->

To derive meaning and insights from data and to solve problems

What is Data Science... and why you should care

Some trends:

- **Big Data**

Massive amounts (millions, billions) of data enabled by increased computing power, internet of things, social networks.

- **Machine Learning**

Model “learns” a set of rules or a relationship from data for a given task

- **Deep Learning**

Representation learning using neural networks that will help with a given task - lots of advances towards **Images (Computer Vision) and Text (Natural Language processing)**

- Reinforcement learning, Artificial Intelligence

However

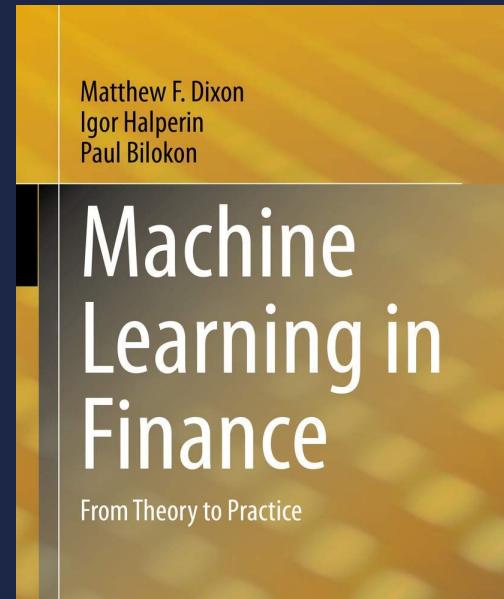
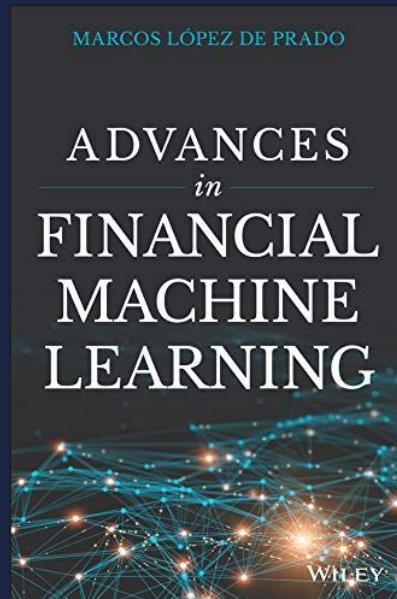
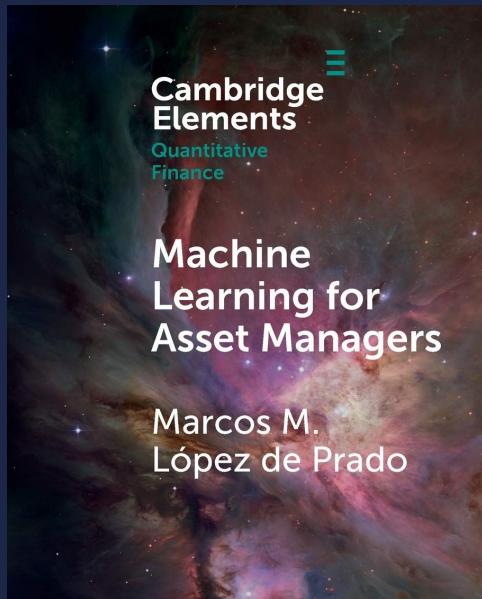
- Small data matters as well.
- **Data visualisation** is important.
- How to collect, store, and manage data is really important! (**data engineering**).
- **OLS / Regression** is a powerful tool

Careers in Data Science

- Plethora of roles if you are interested in the technical aspects: data engineer, data analyst, data scientist, computer scientist, machine learning engineer, software engineer, researcher
 - To do with : researching cutting edge theory, how to apply theory to real-life applications, how to build systems to manage data and productionise models etc.
- However...
- **General programming / problem solving / data analysis skills**
- **Many fields USING data science / programming, interdisciplinary skills!**
 - Econ, Social Sciences
 - Finance (even investment bankers)
 - Many more

Data Science & Finance

- “Quants” were the OG “data scientists”- analyse large amounts of data using statistical techniques
 - Advances in Financial Machine Learning & Machine Learning for Asset Managers, Lopez de Prado
 - Machine Learning in Finance - Dixon, M.F., Halperin, I., Bikolon, P.



Data Science & Econ

- Economists analyse data to answer research questions
- However... Causal Inference and Econometrics - LSE students benefit w.r.t this - understanding the causes of things!
- Some tricks from data science making its way e.g. Econ & Machine Learning
 - Machine Learning Methods Economists Should Know About - Susan Athey et al.
 - Big Data: New Tricks for Econometrics - Hal Varian



IDEAS MADE TO MATTER | ARTIFICIAL INTELLIGENCE

Why a leading economist is embracing machine learning

 by Edward Mason | Oct 29, 2018

Machine Learning Methods Economists Should Know About*

Susan Athey[†]

Guido W. Imbens[‡]

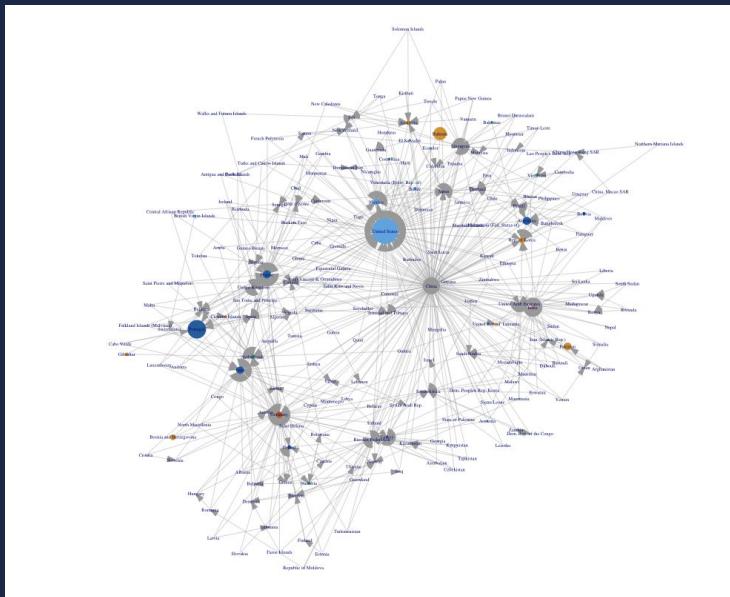
March 2019

Abstract

We discuss the relevance of the recent Machine Learning (ML) literature for economics and econometrics. First we discuss the differences in goals, methods and settings between the ML literature and the traditional econometrics and statistics literatures. Then we discuss some specific methods from the machine learning literature that we view as important for empirical researchers in economics. These include supervised learning methods for regression and classification, unsupervised learning methods, as well as matrix completion methods. Finally, we highlight newly developed methods at the intersection of ML and econometrics, methods that typically perform better

Data Science & Social Sciences

- Psychologists, Political Scientists, Social scientist users and analysis of data - Social Data Science
 - Ability to quantify things that wouldn't have been possible before - such as text! (Natural Language Processing), networks
 - LSE's Department of Methodology - Kenneth Benoit and others, quanteda



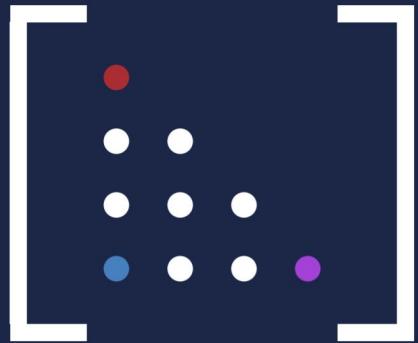
industry relations
service important
fellow-citizens course laws condition
always defense executive opinion promote
effect happiness principles success
extent commerce administration others honorable
reason never within might made constitution purposes
never objects ever power citizens state duty system
objects freedom within nation union spirit maintain
ever part policy prosperity called one well many
faithful party less rights due free whole land virtue period
man place long may can honor since
rights congress duties political whose best favor
place just right must give men justice still
years found years upon year people placed
interest domestic life blessings force war measures
therefore station trust united nations general
station future naval world without upon year
highest confidence now powers national principle
parties improvement order feel support war common
circumstances internal resources limits nature present
equally law human respect love degree
governments preserve importance experience
satisfaction

Light hearted examples

- Or you can just mess around....
- Magenta Tensorflow Lo-Fi player: <https://magenta.github.io/lofi-player/>
 - Combining music styles to generate chill beats using Tensorflow
- CartoonGan: <https://leemeng.tw/generate-anime-using-cartoongan-and-tensorflow2-en.html>
 - Turn images into 'anime style'
- Style Transfer <https://reiinakano.com/arbitrary-image-stylization-tfjs/>
 - Turn images into painting; combining styles
- Some more:
 - <https://experiments.withgoogle.com/collection/ai>
 - <https://www.tensorflow.org/js/demos>

How to get started (in Data Science)?

- Join the society 😂
- Learn 1+ programming languages (Python/R); how to manipulate data
- Learn some theory; statistics
- Work on projects and problems you're interested in
- Get some work experience
- See : <https://dsatlse.github.io/resources/careers/>



LSE SU

**DATA SCIENCE
SOCIETY**

What do we do?
(And why you should join us)

Be part of an inclusive and supportive learning community

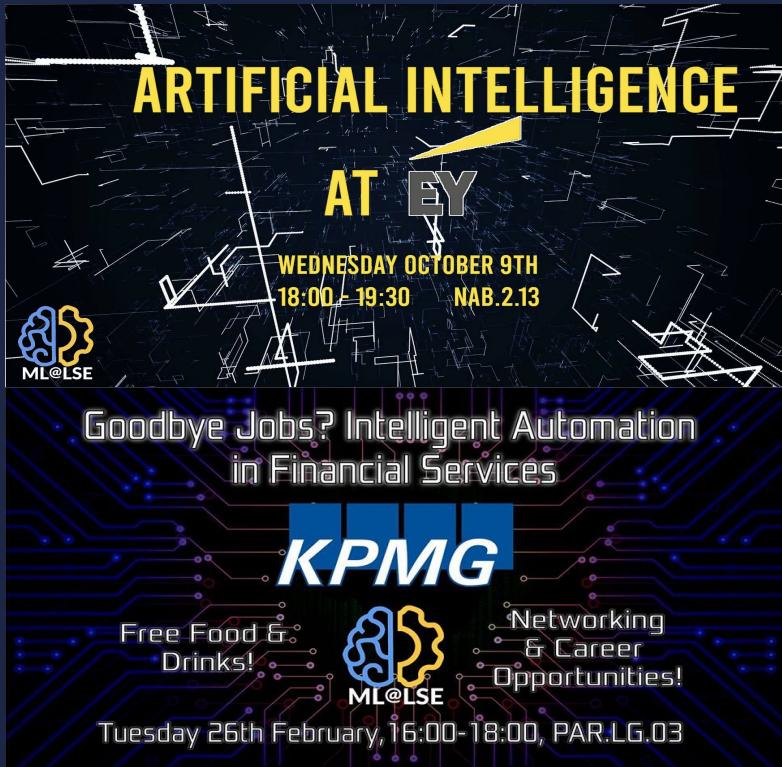
- Want to build a **community**, especially since MT might be remote
- **Facebook Group / Zulip** (you will get an email with the links)
- Ask anything - **helpdesk**
- We welcome, support and provide opportunities for members at every stage of their data science journey - through learning, doing projects, joining datathons and applying for internships

Opportunities on Zulip

- Many **opportunities** are advertised on Zulip, so be sure to sign up!
- Roles for a wide variety of industries and experience level
 - external internships, talks, hackathons

Name of event	Type of event
 LSE Generate - Coding Bootcamp for LSE Women!	WORKSHOP
 LSE - Coffee Morning: Careers in Technology	TALK
 LSE - Coffee Morning: Careers in Technology	TALK
 Bank of America - EMEA Virtual Recruitment Event: Shaping the New World of Technology	TALK
 Goldman Sachs - Virtual Fall Sessions - Tech Talks @ GS	TALK
 Goldman Sachs - Virtual Fall Sessions - HackerRank Hacks	TALK
 Goldman Sachs - EMEA Divisional Insight Series: Engineering	TALK
 Goldman Sachs - Virtual Fall Sessions - HackerRank Hacks	TALK
 LSE - Careers with a Mathematics or Statistics degree panel and Q&A	TALK
 Deeplearning.AI - GANS for Good	TALK
 Truecue - Women in Data Hackathon	HACKATHON/CHALLENGE
 - The 3rd Women in Quantitative Finance Conference (WQF)	TALK
 Women in Tech York - Code your way out of a paper bag using Genetic Algorithms	TALK

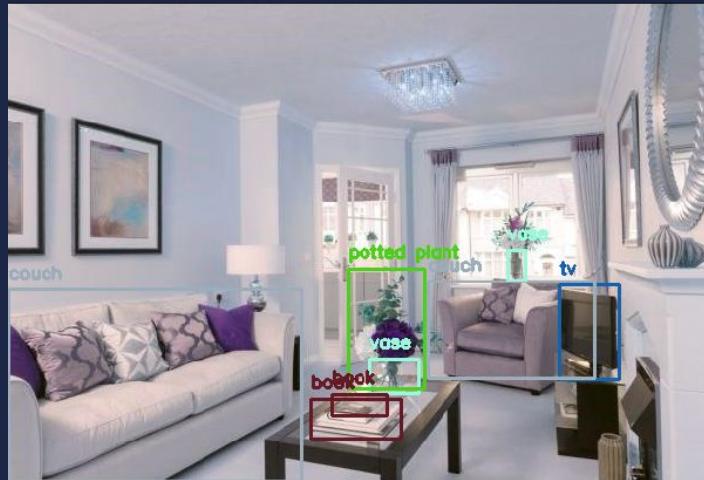
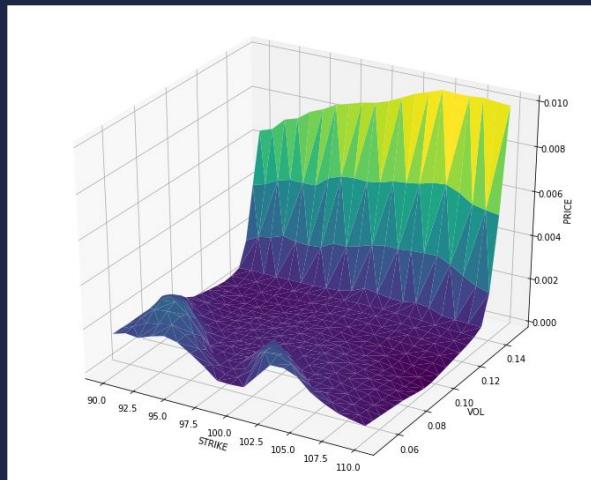
Past Events

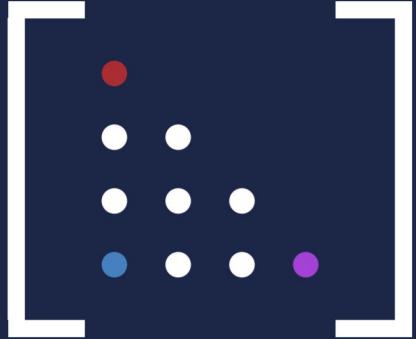


- Speaker Events
- Workshops
- dsatlse.github.io/events/2019
- facebook.com/dsatlse

Past Projects

- Data science projects - predicting stock prices, property tech
- <https://dsatlse.github.io/projects/2019/>





LSE SU

**DATA SCIENCE
SOCIETY**

How can I get involved?

Join the Team - Organisational

I am interested in data science and technology and want to learn more, and I want to develop business/ society management skills.

- **Events** - Plan and deliver weekly speaker events and termly socials
- **Marketing** - Design creative promotional materials and run digital marketing campaigns
- **Partnerships** - Liaise with industry professionals to secure speakers and sponsors

Time commitment for all subcommittees: 4-5 hours per week



Join the Team - Technical

I am interested in data science and technology, but am most interested in understanding theory, developing solutions and building my portfolio.

- **Education** - Produce educational materials and run workshops to expose LSE students to data science applications
 - Requirements: familiar with Python/R and knowledge of data science)
- **Engineering** - Create tech tools and frameworks to support the society's activities
 - Requirements: familiar with programming, problem solving, web dev nice to have
- **Projects** - Work in teams to develop an end-to-end machine learning solution to a real-world problem
 - Requirements: familiarity with Python, data science nice to have

Time commitment for Projects and all subcommittees : 4-5 hours per week

Meet the Committee!



CHRIS CHIA
(PRESIDENT)



ZHEN YEN
(VICE PRESIDENT)



ELDRIC LEM
(TREASURER)



RAFAY BUTT
(SECRETARY)



PEARL YUAN
(HEAD OF INTERNAL RELATIONS)



RACHEL SOH
(CO-HEAD OF MARKETING)



HAJNI NGUYEN
(CO-HEAD OF MARKETING)



MAJA LIE
(HEAD OF EDUCATION)



KONSTANTY KOWALEWSKI
(HEAD OF ENGINEERING)



CHAN MUN FAI
(HEAD OF PROJECTS)

Subcommittee Applications



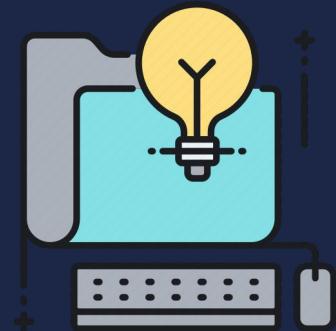
- **Recruiting for:**
 - **Events** (4)
 - **Marketing** (4)
 - **Partnerships** (6)
 - **Education** (3) + 1 Head of Education
 - **Engineering** (2)

*inviting project applicants who have appropriate skills to Education/Engineering as additional opportunity.

- **Application form:** <https://link.kszk.eu/subcomsignup>
- **Details on FB:** <https://www.facebook.com/dsatlse>
- **Email / message if any questions**
- **Deadline:** **9th October, 6.30pm BST**

Projects Applications

- 4 projects currently available
- Apply here: <https://link.kszk.eu/projects signup>
- Details on Facebook:
<https://www.facebook.com/dsatlse/posts/688539165085634>
- Deadline: 9th October 2020, 6.30pm BST
- Also looking for more experienced applicants to become Project Managers,
see <https://www.facebook.com/dsatlse/posts/694959371110280>



Upcoming Events

- **Events**
 - Data Science in Retail Banking with NatWest Group - 7th October
 - Statistical Aspects of Educational Testing with Dr Yunxiao Chen - 14th October
- **Workshops**
 - Data Storytelling for COVID-19 - how to visualise data in Python - 7th October
 - Python for MA - how to use programming for MA (linear algebra, calculus), and the gradient descent algorithm, a key algorithm in machine learning - 14th October
- **Flagship Event - Save The Date!**
 - **Data Science Bootcamp - 14-15th November, Virtual**



Next Steps

1. **Become a member:** <https://link.kszk.eu/dssmembership>
2. **Welcome Survey (5x£10 amazon vouchers + tell us what you want!)** : <https://link.kszk.eu/welcomesurvey>
3. Follow us on social media!

Facebook: <https://www.facebook.com/dsatlse/>

Instagram: @dsatlse

Website: <https://dsatlse.github.io/>

