

# Yuchen Zhu

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<https://scholar.google.com/citations?user=7LoS1loAAAAJ&hl=en>

## EDUCATION

### University College London — PhD, Foundational Artificial Intelligence

October 2020 - Present

- Full EPSRC Studentship | Causal Machine Learning | with Professor Ricardo Silva and Dr Matt Kusner.

### University College London — MSc, Machine Learning (Distinction)

October 2018 - September 2020

- Thesis project on: Machine Learning and Causal Inference for Education Datasets.
- Specialised in probabilistic learning and causal inference.

### University of Cambridge, King's College — Mathematical Tripos (BA HONS, 2.i)

October 2015 - June 2018

- Qualified for entrance into Part III Mathematics at Cambridge, but chose to pursue machine learning.
- Studied a wide range of modules in pure, applied and statistical mathematics.

## EXPERIENCE

### UCL, London — Teaching Assistant, Oct 2021 - Present

- Teaching assistant of three graduate level courses.
  - With Professor Arthur Gretton: Kernel Methods.
  - With Professor Peter Orbanz: Probabilistic and Unsupervised Learning.
  - With Dr Matt Kusner: Applied Machine Learning

### Sana Labs, Stockholm — Research Intern, March 2020 - Oct 2020

- Machine Learning for **Education**. My project uses **machine learning** and **causal inference** ideas to evaluate educational recommender systems.

### Pace Revenue, London — Machine Learning Intern, September 2019 - March 2020

- Led the **Reinforcement Learning** R&D project, implemented the company's first simulation library (python) and a variety of RL agents (**python** & **tensorflow**).
- Independently formulated research questions and objectives, investigating the application of a

variety of **RL agents to pricing**.

- Built **cloud** parallel training with Docker, Kubernetes and Argo, trained 500+ jobs simultaneously.

**Self-employed, London, UK — Tutor of Mathematics**, October 2018 - Present

Mathematics tuition for:

- Sixth Term Examination Paper (Cambridge/Warwick/Imperial offer component).
- Mathematics Admissions Test (Oxford/Imperial offer component).
- UK Maths Challenges.

**University of Cambridge, Cambridge, UK — Summer Research Intern**, July 2018 - September 2018

- Explored the mathematical formulation of optical flow estimation and dictionary learning.
- Worked with computer vision algorithms such as Total Variation and Classic+NL.

## **PUBLICATIONS (\*equal contribution)**

**Proximal Causal Learning with Kernels: Two-Stage Estimation and Moment Restriction**  
— *ICML 2021*

Afsaneh Mastouri\*, YZ\*, Limor Gultchin, Anna Korba, Ricardo Silva, Matt Kusner, Arthur Gretton^, Krikamol Muandet^

**Causal Effect Inference for Structured Treatments** — *NeurIPS 2021*

Jean Kaddour, YZ, Qi Liu, Matt Kusner, Ricardo Silva

## **SKILLS**

**Programming:** Python, Git, LaTeX, Matlab, R

**Languages:** Mandarin Chinese(native), English(bilingual proficiency), French(basic)

## **AWARDS**

**British Mathematical Olympiad** (2014 round 1) — Silver Medal (UK rank 36th)

**UK Senior Maths Challenge** (2013, 2014) — Gold, Gold

## **VOLUNTEERING**

**Education Partnerships Africa — Educational Consultancy**

December 2015 - September 2016

Worked with a rural secondary school in East Africa. Improved the lives of their students and their quality of education via: installation of a drinkable water tank, securing a 10-year warranty; introduction of the school's first electronic book-keeping system; careers day. Individually fundraised £2000 for the projects.