Luna Yue Huang

Economics | Remote Sensing | Causal Inference + Machine Learning

CONTACT

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EDUCATION

UC BERKELEY
PhD in Development Economics
GPA: 3.8
Expected May 2021 | Berkeley, CA

PEKING UNIVERSITY
BA in Economics & BS in Environmental Sciences
2012–2016 | Beijing, China

COURSEWORK

Applied Econometrics II/III
Applied Machine Learning
Probability and Statistics
Development Economics I/II
Applied Industrial Organization
Economic Theory (Micro & Macro)

SKILLS

Python (& PyTorch) • R

SQL (Google BigQuery) • QGIS
Bash • LaTeX • Markdown • Git

REFERENCE

Edward Miguel
Professor of Economics, UC Berkeley
emiguel@berkeley.edu

Marco Gonzalez-Navarro
Associate Professor of Agricultural and Resource Economics, UC Berkeley
marcog@berkeley.edu

Solomon Hsiang
Professor of Public Policy, UC Berkeley
shsiang@berkeley.edu

WORK EXPERIENCE

X, the Moonshot Factory (Google X)
AI (Artificial Intelligence) Resident — May 2020–Present

- Work on a confidential project at the intersection of causal inference and machine learning, utilizing big data from internal Google sources.

SELECTED RESEARCH

Understanding the Effects of Climate Change on Mass Migration Using 1.6 Million Historical Aerial Photographs
work in progress, joint with Solomon Hsiang, Andreas Madestam, Anna Tompsett, Hannah Druckenmiller, Nicklas Nordfors, and Trinetta Chong

- Construct the first historical high-resolution population and land use map of 27 developing countries, using historical aerial photographs taken by retired British spy planes.
- Apply state-of-the-art machine learning segmentation techniques to extract historical human settlement patterns and road networks.
- Study the effects of droughts, hurricanes and other changes in climate on population settlement and economic development patterns over 80 years.

Measuring the Welfare Impacts of International Development Programs with Satellite Imagery and Deep Learning
work in progress

- Apply a state-of-the-art instance segmentation model to map poverty from high-resolution satellite images.
- Successfully develop a proof of concept for causal inference with remotely sensed poverty predictions.

PUBLICATION

- **The effect of large-scale anti-contagion policies on the COVID-19 pandemic, Nature 2020** (joint with Solomon Hsiang, Daniel Allen, Sébastien Annan-Phan, Kendon Bell, Ian Bolliger, Trinetta Chong, Hannah Druckenmiller, Andrew Hultgren, Emma Krasovich, Peiley Lau, Jaecheol Lee, Esther Rolf, Jeanette Tseng, and Tiffany Wu).
- **Using randomized controlled trials to estimate long-run impacts in development economics, Annual Review of Economics, 11(1): 523-561, 2019** (joint with Adrien Bouguen, Michael Kremer, and Edward Miguel).

TEACHING

SPATIAL DATA AND ANALYSIS (IN PYTHON)
[GSPP 275] Fall 2019 | MPP/MPA/PhD Level, UC Berkeley

INTERMEDIATE MICROECONOMICS
[MBA 201A] Fall 2018 | MBA Level, UC Berkeley