ELIZABETH SANTORELLA

Data Scientist and Econometrician Successful in Crafting Tools That Work

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EDUCATION

Harvard University   *May 2018*
PhD in Economics
Research focus: econometrics, education, and public economics

Massachusetts Institute of Technology   *June 2013*
S.B. in Physics & Economics
Physics concentration in computer science

RECENT EXPERIENCE

QuantCo   Economist / Data Scientist
Full time December 2017 - present
Part time December 2015 - May 2017   *Boston, MA*

- Owner of a product that estimates a crucial input to pricing over $2 billion of revenue.
    - Transformed ad-hoc Matlab/R code into automated Python machine learning pipeline running at two e-commerce clients.
    - Most recent A/B test: gross profit increase >$7M, revenue >$12M (annualized)
    - Tasks: Model selection, performance optimization, causal verification, productionization.
- As a start-up employee, I wear many hats:

    - Pricing strategy
    - Experiment design
    - Setting priorities
    - Advising
    - Evangelizing technical best practices
    - Recruiting

SKILLS

Computer Languages	Python (Numpy, Pandas, Scikit-Learn); R; SQL; Matlab; Stata
Other Skills	Statistics, machine learning, internal tool development, technical writing, performance engineering, numerical optimization

RESEARCH

My dissertation consists of three essays available on my website.

Multi-Dimensional Teacher Effects

- I estimate the covariance structure of teacher effects on several outcomes and find that long-term effects cannot be captured well by short-term effects, implying that teacher evaluation metrics based on short-term outcomes like test scores capture little of teachers' true effects on their students.

Which Value-Added Estimator Works Best and When?

- I survey existing (teacher) value-added methods and clarify the conditions under which they are valid, then develop and validate an improved method.

Bureaucrat Value Added: The Effect of Individual Bureaucrats on Local Economic Outcomes in India
with Jonas Hjort and Gautam Rao

- We use several value-added estimators to quantify how much agency individual bureaucrats have to impact local economic performance.