<div align="center">Zach Flynn's Curriculum Vitae</div>

Basic Info

Website – http://www.zflynn.com
Email – zlflynn@gmail.com
LinkedIn – https://www.linkedin.com/in/zlflynn
Github – https://github.com/flynnzac
Skills – Economics (Industrial Organization, Econometrics), Machine Learning, Data Science
Current and Prior Employers – Afiniti (an AI company), Amazon (an internet company)

Education

PhD in Economics

- The University of Wisconsin - Madison (2012-2017)

- Fields: Industrial Organization and Econometrics.

- Dissertation title: Measuring productivity and market power.

- Committee: Ken Hendricks, Alan Sorensen, Amit Gandhi, Jack Porter

BS in Economics and Mathematics

- Tulane University (2008-2012)

Employment

Afiniti

- Research Scientist, Research and Development, Washington, DC.

- July 1, 2018 to present.

- This role is a hybrid between applying and developing models and actually building the tools to operationalize those models. A hybrid research scientist/engineer role.

- The company builds models to decide how best to pair callers and call center agents. It bills based on how much it increases, say, the sales rate or reduces the cancellation rate.

- I developed

  - an internal R package and strategy to predict the performance of models in production before they are deployed.

  - models that determined which call center agents and callers should be paired to maximize our client's objectives.

  - a main component of the application we use to decide how to route calls between callers and agents (in C++).

  - metrics to monitor how well different strategies for pairing callers and agents do in production once they are deployed.

  - research on new, next-generation matching algorithms.

Amazon

- Economist, Amazon Prime, Seattle, WA.

- May 1, 2017 to June 30, 2018

- Designed, developed, and used a discrete choice demand model to help make pricing and product design decisions that was used in a wide variety of applications at the company. For example, it was used

  - to inform major Prime pricing decisions;

  - to separately value the various benefits of being a Prime member (free shipping, streaming video and music, etc)

- to estimate the effect of modifying Prime benefits on Prime membership;
- to estimate the effect of *potential* video content investment decisions on Prime membership.
- Developed a censored quantile regression approach to model what factors make customers buy a product or sign up for Prime sooner.
- Worked on many smaller projects, including analysis of which cities had the greatest opportunity size for advertising Prime during NFL games and which lower-income markets had the greatest opportunity size for advertising a lower-priced Prime for lower-income customers.
- Promoted to Economist II in April 2018.

University of Wisconsin - Madison, Economics Department

- Research Assistant to Jesse Gregory
- Fall 2014 to August 2016
- Implemented dynamic discrete choice models to understand housing decision problems for two projects: one on post-Katrina New Orleans and the other on the national housing market.
- Used Condor at the CHTC at the University of Wisconsin Madison to estimate the large scale dynamic discrete choice models.
- Teaching Assistant
- Introduction to Macroeconomics (Spring 2013, Spring 2014), Economic Statistics (Fall 2013), Introduction to Microeconomics (Fall 2012)

Research

The latest versions of all papers are also linked at my website: http://zflynn.com. I have other works in progress, but I only show the papers with public or nearly-public drafts available below. I (mainly) study how to measure productivity and how productivity affects market structure and economic growth.

Working Papers

- Identifying productivity when it is a choice (revision requested at RAND Journal of Economics)
- Identifying market power in production data (with Amit Gandhi and James Traina)
- Unproductive by choice: substitution and the slowdown in aggregate productivity growth in the United States
- The substitution and scale effect of carbon taxation
- Partial identification of production functions with flexible inputs (with Amit Gandhi)
- Inference on functions of parameters partially identified by the intersection of continuous linear inequalities

Published Papers

- Parametric Inference Using Structural Breaks (with Leandro Magnusson). Stata Journal (2013).

Short writing

- Estimating Logistic Regressions Using Two Stage Least Squares

Awards and Fellowships

Alice S. Gengler Fellowship – University of Wisconsin Madison – awarded May 2016

Culbertson Prize for Top Field Paper – University of Wisconsin Madison – awarded May 2015

Graduate Research Fellowship – University of Wisconsin Madison – awarded May 2015

Programming languages and computing

Environments and programs: AWS, Linux, some Spark knowledge

Programming languages: R, SQL (MySQL, Oracle, Redshift, PostgreSQL, etc), SAS, InfluxDB, Fortran, Matlab/Octave, C/C++, Perl, Python, Stata, Julia, Shell Scripting (for Linux using the bash shell), Lisp, and Scheme.

For some examples of projects I have done/jobs where I used the above languages regularly:

- R – All of my academic papers were mostly written in R (and Fortran). The censored quantile regression project at Amazon mentioned above was done in R as well. I use it frequently for projects at Afiniti.

- Stata – Some of my RA work at Wisconsin was in Stata, the paper with Lenadro Magnusson developed a Stata package, and I used Stata at Amazon for many projects.

- C/C++ – I have used C++ for projects at Afiniti and I have written C code for open source projects.

- RA work with Jesse Gregory used both Matlab and Fortran.

- I used SQL at both Afiniti and Amazon.

- I use Perl in personal scripts, and I used it to automate many tasks at Amazon.

- I learned SAS in college and did some part time "consulting" in SAS while in grad school to help pay for... food... in the summers when there was no TA salary coming in (I helped people write programs to get results they needed for their thesis for 20 dollars an hour).