

## Austin Herrick

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### EXPERIENCE

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#### **Penn Wharton Budget Model**

Philadelphia, PA

*Senior Analyst*

January 2019 - Present

*Research Associate*

July 2017 – December 2018

- Construct ETL framework for data pipelines and dependency management (in Python) for the Demographic Microsimulation, a projection of the US population built with more than 30 interconnected economic models
- Used Python to collect, clean, impute, and analyze microdata surveys including ACS, CPS, SIPP, and NCHS data
- Lead project management for smooth integration of models and code across analytics teams
- Build or improve demographic models projecting household formation, marriage markets, fertility, immigration, internal migration, and other economic and demographic phenomenon.
- Manage Research Associate projects, including creating timelines, assigning responsibilities, and reviewing code
- Serve on hiring committee for RA candidates, and lead training for new hires, including with a self-written Python course
- Maintain stable codebases for data retrieval, data processing, and the Demographic Microsimulation

#### **University of Chicago**

Chicago, IL

*Research Assistant, Center for Robust Decisionmaking on Climate and Energy Policy*

June 2016 – September 2016

- Researched and evaluated capital malleability and committed emissions assumptions from more than 100 published papers in a variety of economic literature, and wrote a report synthesizing the state of the field
- Examined literature and documentation for 21 complete general equilibrium models linking environmental and economic impacts, in order to determine their degree of sensitivity to capital transition concerns

#### *Sustainability Intern, Facilities Services: Campus Planning + Sustainability*

June 2015 – June 2016

- Built a calculator tool to preform cost-benefit analysis and compare savings across buildings for energy efficiency upgrades to campus properties, identifying savings of up to \$2,000,000 over a 5 year period
- Analyzed data for the university's Greenhouse Gas Inventory, and provided trend reports for key pollution metrics as well as reports documenting potential strategies for improving data collection and reducing emissions

#### **Boy Scouts of America**

Morris, IL

*Ecology Conservation Director, Rainbow Scout Reservation*

January-August 2013, 2014

*Ecology Conservation Instructor, Rainbow Scout Reservation*

June-August 2010, 2011, 2012

- Directed planning and implementation of all scheduling, operations, and curriculum (including classes, conservation, and experiments) for the summer camp program at the Ecology Center, serving approximately 550 scouts over a 6 week period
- Prepared closing reports and written curriculum for the use for national inspections, council oversight, and future staff

## EDUCATION

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### The University of Pennsylvania

Philadelphia, PA

*Masters of Computer and Information Technology*

August 2021 – Present

- GPA: 4.0

*Additional Coursework:* Computer Science through Program Design (OCaml and Java)

Jan – May 2021

### The University of Chicago

Chicago, IL

*Bachelor of Arts in Economics*

June 2017

- GPA: 3.64
- Relevant Coursework: Econometrics, Statistical Analysis, Computer Science, Micro and Macroeconomic Analysis (Honors), Accounting, Monetary Policy, Industrial Organization

## PROGRAMMING

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- *Python* – 5 years of professional experience in managing codebases, cleaning and analyzing microdata, constructing demographic models, visualizing and validating data, and building infrastructure for a large-scale microsimulation
- *Java* – Primary language used during graduate coursework
- *SQL, OCaml, R, Stata, Matlab* – Moderate use for coursework in computer science and economics

## LEADERSHIP

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### Phoenix Sustainability Initiative

Chicago, IL

*President*

May 2016 – May 2017

*Vice President*

May 2015 – May 2016

- Managed, trained, and directed 7 Project Leaders overseeing teams of 5-6 members, responsible for a range of projects such as hosting discussion panels, promoting sustainable food, organizing career treks, and networking with the community

## WRITING / PUBLICATIONS

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- *Berkovich, Costa, Herrick*, (2022) “Immigration and the Macroeconomy”. PWBM Working Paper Series. Available at <https://budgetmodel.wharton.upenn.edu/issues/2022/1/5/w2022-1>
- Briefs for PWBM *Economic Matters* blog. E.g, *Estimates of TCJA Repatriation of Foreign Earnings on Investment and GDP*: (<https://budgetmodel.wharton.upenn.edu/issues/2018/8/29/estimates-of-tcja-repatriation-of-foreign-earnings-on-investment-and-gdp>)
- *Churchill, Biderman, Herrick*, (2020) “Magic: The Gathering is Turing Complete”. The Proceedings of the 10<sup>th</sup> International Conference on Fun with Algorithms. Available at <https://arxiv.org/abs/1904.09828v2>