

Collin Zoeller

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EDUCATION

Carnegie Mellon University (non-degree)

Jul 2023 - Present

Relevant Coursework:

Pittsburgh, PA

- Intro to Machine Learning (10-601, Graduate)
- Quantum Integer Programming and Machine Learning (Graduate)

Brigham Young University

Apr 2023

Bachelor of Science: Economics (Emphasis in Econometrics)

Provo, UT

Minors: Mathematics, Spanish

GPA: 3.71

Relevant Coursework:

- Advanced Econometrics, Advanced Macroeconomics, Advanced Linear Algebra
- Machine Learning for Economists, taught by pioneering researcher

EXPERIENCE

Tepper School of Business, Carnegie Mellon University

Jul 2023- Present

Pre-doctoral Research Associate

Pittsburgh, PA

- Contracted with Internal Revenue Service to access administrative tax data
- Technical, research, and econometric support for academic projects
- Trained 3 other research associates in Linux, Python, Stata, and computational optimization

Harvard Business School

May 2022-Jul 2023

Computer Vision Programmer and Research Assistant for HBS Ph.D. Candidate

Cambridge, MA /Provo, UT

- Constructed image segmentation, OCR, and text recognition for Ph.D. dissertation
- Extracted, analyzed, and visualized data from 25,000+ images and 1,000,000+ data points
- Generalized OCR knowledge for novel applications in academic research

Brigham Young University Record Linking Lab

Jun 2022- Jul 2023

Research Assistant, Computer Vision Team Lead

Provo, UT

- Managed a team of 7 undergraduates and 2 graduate students
- Managed 6+ CV projects for clients including FamilySearch and Wilford Woodruff Papers Foundation
- Delivered key insights and research to support genealogical data transcription using CV techniques

Brigham Young University Economics Department

Sep 2021-Apr 2022

Econ 110 Teaching Assistant

Provo, UT

- Taught lectures on macro and microeconomics for 500+ students
- Hosted 15 lab hours each week to students and 1-hour lecture review for exam preparation
- Crafted test questions and graded all assignments for the instructor

CONTRIBUTIONS

Denes, Matthew, Lagaras, Spyridon and Tsoutsoura, Margarita, 2024, Evolution of the Relationship between the Gig Economy and Entrepreneurship: The Heterogeneous Effects of Labor Market Disruptions

Research Associate

- Studies entry into entrepreneurship by women during the COVID-19 pandemic
- Managed, and optimized entire project: data lake, file storage, project workflow (SQL, Linux, Stata)
- Estimate DiD using US taxpayer data to identify the effect of the pandemic on labor decision
- Copy-editing, formatting, captions, and other publication support

Denes, Matthew, Lagaras, Spyridon and Tsoutsoura, Margarita, 2023, Entrepreneurship and the Gig Economy: Evidence from U.S. Tax Returns, Revise & Resubmit at the *Journal of Financial Economics*

Research Associate

- Studies entrepreneurial success among former workers of the platform economy
- Tuned a custom GPT over GPT-4 and made Python code to automate LaTeX table entry
- Copy-editing, formatting, captions, and other final publication support

Denes, Matthew, Lagaras, Spyridon and Tsoutsoura, Margarita, 2023, First Come, First Served: The Timing of Government Support and Its Impact on Firms

Research Associate

- Studies small businesses receiving paycheck protection loans during the COVID-19 pandemic
- Research and econometric design support, including NLP and fuzzy string-matching paradigm
- Estimate DiD to identify effect of policy timing on firm financial health using credit bureau credit data

Denes, Matthew, Lagaras, Spyridon and Tsoutsoura, Margarita, Take-up of Flexible Labor (work in progress)

Research Associate

- Studies employment of flexible labor through tax deduction claims
- trained text classifier RNN on 1 billion+ taxpayer-inputted deductions

PROJECTS

‘StataHelper’ Python Package for PyStata Parallelization

August 2024

Author

Pittsburgh, PA

- Wraps PyStata API and bridges syntax for simpler implementation
- Increases productivity with user-friendly multiprocessing
- Open-source availability on PyPi and GitHub, discussion on Medium

‘Reverse Indexing’ App for Data Validation in Handwriting Recognition Models

Sept 2022-July 2023

Research Assistant, contributor

Provo, UT

- RLHF app that crowd-sources data validation (available at fhtl.org/reverse-indexing)
- Prepare and push validation data to the app
- furthers vision to replace human indexing of genealogical records

City Directory Conversion, Applications of Machine Learning

May 2022-July 2023

Computer Vision Programmer and Research Assistant for HBS Ph.D. Candidate

Cambridge, MA /Provo, UT

- Built custom ML pipeline utilizing image segmentation, OCR, and NLP
- Other technical and econometric support, including econometric design
- Open-source project is available on GitHub

PRESENTATIONS AND CONFERENCES

BYU President’s Leadership Council

Sept 2022

Growing Together: Growing the Tree

Provo, UT

- **Topic:** Emerging applications of computer vision in genealogical research

Family History Technology Workshop

Feb 2023

City Directories Automated Indexing

Provo, UT

- **Topic:** My OCR tool as a low-cost method to collect data from city directories

VOLUNTEER EXPERIENCE

The Church of Jesus Christ of Latter-Day Saints

Sept 2017-Aug 2019

Missionary

Los Angeles, CA

- Responsible for training, morale, and engagement for 70+ fellow missionaries
- Taught religious curriculum to 1500+ Spanish-speaking residents in Orange and Los Angeles Counties
- Taught 15+ English classes to non-native speakers as a free public service

TECHNICAL SKILLS

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|--------------------|--------------------------|---------------------|------------------|
| ▪ Stata | ▪ ML, DL, LLM | ▪ Simplex, Gurobi | ▪ Amazon AWS |
| ▪ Python | ▪ Pytorch, Keras | ▪ Quantum ML, DL | ▪ Google Dev SDK |
| ▪ R, Matlab, Linux | ▪ Web scraping, Selenium | ▪ Quantum Annealing | ▪ Git/GitHub |
| ▪ CSS, HTML | ▪ ArcGIS | ▪ Quantum Gates | ▪ LaTeX |

CERTIFICATES

BYU Spanish Language Certificate

Dec 2022

ACTFL Advanced Spanish Proficiency

Provo, UT

Certificate ID: 6028333-79C11E