https://github.com/chrisrytting **Chris Rytting** christophermichaelrytting@gmail.com
(801)369-0666

Education

MS Computer Science; 3.89 Dec 2020
Brigham Young University *Provo, UT*

BS Applied and Computational Mathematics, BS Economics; 3.78 Apr 2017
Brigham Young University *Provo, UT*

GRE, 167 / 170 Quantitative (89th percentile), 166 / 170 Verbal (97th percentile)

Skills

Python, Tensorflow, Pandas, SQL, Unix/Bash, Git, LaTeX, Docker

Some proficiency in Pytorch, Julia, Java, C++

Work Experience

Perception, Cognition, and Control Laboratory - Research Assistant May 2018 - Present

- Thesis - "Leveraging the Inductive Bias of Large Language Models for Abstract Textual Reasoning"
- Used large deep neural network language models (3 billion parameters) to create abstract textual reasoning engines. Parallelized training across 16 Nvidia Tesla V100 GPUs for speed-up of ∼20x and extrapolative accuracy up to 100%

Open Source Policy Center, AEI - Research Associate May 2015 - May 2018

- Wrote Python code to fit various functional forms to large sets of tax data using Ordinary Least Squares and numerical minimizers
- Helped code up a dynamic general equilibrium economics model in Python with stochastic processes for use in dynamic scoring of policy decisions
- Integrated results of a tax model with rich heterogeneity into said dynamic general equilibrium model
- This research resulted in a publication in *Public Finance Review*
- Organization's portfolio of projects supported users including White Houses from both parties, Congress, national and local newspapers, presidential campaigns in primary and general elections, academic and policy researchers, and private industry

Federal Reserve Bank of NY, Macroeconomic Research - Summer Analyst June - Aug 2016

- Implemented sequential monte carlo algorithm in the Julia programming language to replace the FRBNY's official method for posterior distribution sampling (Metropolis-Hastings implemented in Matlab)
- This change allowed sampling of mass-separated and multi-modal posteriors and resulted in a ∼10x speedup
- Helped conduct Bayesian inference on the FRBNY's dynamic stochastic general equilibrium model (via a kalman filter and SMC), the results of which were used to brief the Federal Reserve Board of Governors

Other Experience

Guest Lecturer at University of Chicago, Becker Friedman Institute: Invited to give 2 weeks of instruction on linear and nonlinear optimization to ∼30 graduate and undergraduate students from University of Chicago, Harvard, NYU, Notre Dame, and other schools (July 2018)

Wheatley Student Scholar and Author: Through academic and extracurricular excellence, earned nomination by faculty and eventual acceptance for scholarship covering 130% of tuition through undergraduate education and one year of graduate education. Published several articles in the Wheatley publication

Founder and President, BYU Artificial Intelligence Club: Created club to draw together interdisciplinary coalition of students from computer science, maths, philosophy, statistics, neuroscience, etc. to collaborate on and learn about artificial intelligence

Vice President of Academics, BYU Economics Student Association: Took charge of preparing students for graduate work in economics by organizing monthly mentorship opportunities between students and visiting/resident faculty

3^{rd} **place BYU Kaggle Competition 2016**: Ensembled random forest and xgboost to accurately predict viability of insurance claims given features