ss4660@georgetown.edu
(202) 820−4644

# Shahzoor Safdar

shahzoor.github.io
linkedin.com/in/shahzoor-safdar

## EDUCATION

### Georgetown University
May 2025
Ph.D. Economics
Courses: Econometrics, Computational Economics
TA: Economics Statistics, Political Economy

### University of British Columbia
November 2019
B.A.Sc Electrical Engineering & B.A. Economics
Courses: Algorithms, Software Engineering, Probability
TA: Introduction to Probability

## EXPERIENCE

**Avalanche Insights (*tech-enabled public opinion research company*)** — **Python, Django, React, PostgreSQL**
Software Engineer I — September 2020 — July 2021

- Conceptualized and created an interactive tool to qualitatively code thousands of open-ended responses into quantifiable themes, delivering $10M in public opinion research between 2019-2021
- Created an interface that enabled analysts to combine and interact audience responses, decreasing analysis time by 50%
- Built a data visualization interface using Visx, enabling analysts to visualize as many as 10K responses in half the time
- Integrated AWS Mechanical Turk into the core product, reducing the time taken to use the service by 4x

**Avalanche Insights** — **Python, Django, R**
Technical Analyst — December 2019 — August 2020

- Designed, implemented, and standardized the company's weighting methodology for sample collection, increasing accuracy and precision by 15%
- Streamlined data ingestion and collection by writing custom R packages and Python integrations with external vendor APIs, increasing project capacity by 4x
- Built a prototype SurveyMonkey integration, enabling analysts to field surveys twice as fast during the last two weeks of the 2020 US Presidential Cycle
- Conducted NLP experiments testing annotation approaches on open-ended text data, spanning thousands of responses

**Rehabilitation Engineering Lab @ Lund University** — **Arduino, C++**
Research Intern — May 2019 — June 2019

- Developed pulse-vibration communication device for deafblind children to allow them to safely interact with caregivers
- Delivered prototype to be tested by the National Knowledge Center for the Deafblind (NKCDB) in Sweden

**Telecommunication Group @ ITESM** — **Matlab**
Research Assistant — July 2018 — September 2018

- Conducted research with Dr. Leyre Azpilicueta on using deterministic 3D ray-launching techniques to analyze smart parking wireless communication systems
- Wrote reusable scripts that automatically produced key metrics, reducing the time required to analyze data by 50%
- Produced 3D models of 4 campus spaces to test signal interference patterns, to assess wave propagation methods

**Department of Statistics @ UBC** — **R**
Research Assistant — June 2017 — September 2017

- Conducted research with Dr. Edward Kroc on the pitfalls of using linear regression models to analyze nonlinear phenomena
- Analyzed simulated datasets using standard regression techniques to identify cases where standard linear regression was inadequate

## PROJECTS

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|---|---|---|
| **Voting in the House**: Scraped dataset of House roll call data from 1990 to 2022 | **Python** | 2022 |
| **shahzoor.github.io**: Personal website | **Jekyll** | 2022 |
| **How to Gerrymander**: Reviewed mathematical models of gerrymandering in economics | **Markdown** | 2022 |
| **Where Congress Went to School**: Created a novel dataset of congressional biographies | **Python** | 2021 |
| **Predict Football Games**: Used FIFA ratings to predict Premier League results | **Python** | 2019 |
| **Lightning Analysis Tool**: Assessed transmission line designs, built for BC Hydro | **VBA** | 2019 |
| **Reproducing McCrary(2008)**: Reproduced a seminal econometrics paper | **R** | 2022 |
| **2DOF Haptic Interface**: wrote/choreographed/directed a 15-minute musical | **SolidWorks, C++** | 2017 |

## OTHER EXPERIENCES AND INTERESTS

**Volunteer Work**: Wayfinder at the UBC hospital, web development volunteer at The Ubyssey
**Interests**: Soccer (Liverpool), books (The Founders, The Undoing Project), podcasts (Acquired, FiveThirtyEight), movies (Goodfellas, The Princess Bride), TV (The Good Place, Succession)