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Shahzoor Safdar

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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 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

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: Built a working prototype from scratch	**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)