

Research Reflection

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Laidlaw Scholars 2023-24
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What is my research about? Why did I undertake this project?

I think it must've been over a year ago that I conceptualized this project. It started with taking a class with Prof. Christopher Greenaway (POLC54, highly recommended) and reading the Canada Health Act. It was here that I realized the principles of the CHA weren't exactly aligning with my personal experiences as an out-of-province student based in Alberta. I had a particularly distressing experience trying to access medical care locally in Ontario, and realizing they both did not accept my University's coverage (UHIP), as well as my Alberta health coverage. On top of that, the clinic only accepted cash, and not credit. I think what must've really done it in was speaking to other folks who experienced the same, if not worst experience (having to somehow find a way to finance an almost \$2k bill for a medical service as an international student), and reading the Abortion Rights Coalition of

Canada's (ARCC) position papers and finding out that this kind of decentralization of medical care coverage and access is an issue across the provinces, and embedded in the history of our Medicare system.

I realized then, that I yearned to validate mine and my friends' lived experiences by providing empirical evidence of this lack of access. At the time, I was learning about the social science applications of computational methods. Specifically, I quickly fell in love with Natural Language Processing (NLP) and its many applications with text. Taking Prof. Christopher Cochrane's class, POLD56 (another highly recommended course!), provided me with a broad conceptual introduction to the field of Computational Social Sciences. If provinces were not performing their due diligence in providing accessible healthcare, there must be many other women and folks like me who are calling on them to take action and change. Seeing [Action Canada's Abortion Access Tracker](#) and the ARCC's [over 100 position papers](#) and plethora of research papers showed me that there is an incredibly strong historical sentiment from Canadians, combined with precedent from R. v Morgentaler and Bill C-43, and the recent surge of abortion discourse from the United States presidential election.

Now is a perfect time to push for the formalized integration of abortion into the Canada Health Act or some other federal legislation. The surrounding context proved to me that this was a policy window if I ever saw one, and I knew this was the right time to contribute something to the advocates' cause. For me, this meant I had to analyze what the topics talked about at the Parliamentary level supported abortion, and whether or not historically and across party lines and gender if there were patterns in

supporting or opposing abortion rights. As a pre-law political science and public policy student, I was very much out of my depth with coding, so taking on a project practicing sentiment analysis on Parliamentary debate speech transcripts was a daunting task completely outside of my knowledge and expertise.



Santana Row, San José, where I would spend weekends walking with my family.

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The Big Struggle: The Learning Curve, Lacking Support, & TECH

This summer, in addition to writing up this project, I was on exchange at Stanford University. For me, being far from home and my support networks proved to be one of the greatest learning experiences for me this summer. I was only able to meet my advisor, Prof. Cochrane, every two weeks for about 30-60 minutes, compared to how we would talk spontaneously on campus often and chat about our work and research interests. Regardless of the time constraints, we made the most of the time where we were able to meet, and in between the bi-weekly meetings, I would send Prof. Chris an email outlining my progress and any other fun updates from California. I am wholly grateful to Prof. Cochrane for taking the time out of his summer to advise on my project, because thanks to him, I was able to narrow the scope of my project and improve my methods/writing more efficiently!

Moreover, I realized that learning the basics in Python was not enough to prepare me for the realities of research design and the dynamic process of computational research (especially in the domain of CSS). Being able to be flexible to the many iterations of revising the model and my other methods, in addition to the literature review and writing of the report helped me learn that there was quite a bit of technical knowledge I lack to be able to navigate this process more efficiently. Luckily, my friend in ECE (Electrical and Computer Engineering), Meghna Ravikumar, had a wealth of experience and knowledge in computational methods (especially NLP), and with her guidance, from there, the model was able to be refined effectively. Learning from her practical and theoretical expertise proved to be more effective than taking any prep course out there, and I've made a mental note to consult more with my friends when I decide to take on more computational work. Thanks Meghna!

I think out of the entire experience, what helped keep me grounded the most was the frequent connection and contact from the Laidlaw Foundation, and specifically You Jia. The networking and discussion sessions, check-in meetings with my peers, and one-on-ones with You Jia were amazing resources to keep me on track with my project, while reflecting on my progress along the way. I deeply appreciate being able to talk to others going through similar challenges as me and sharing through both our interests and insights we gathered from our process so far. Big shout out to the **“Laidlaw Survival Group”** - Tyler, Caroline, Elliot and Nathan!

Being away from home had some benefits as well (as challenging as things were the first few weeks!). I took courses on High-Performance-Computing (HPC) and

Artificial Intelligence (AI), Software Writing, and Engineering Ethics, which proved to be extremely useful in helping shape the way I thought about the implications of my model and its results. The faculty there was extremely friendly and helpful, often taking the time to chat with me about my project and always engaged with any other conceptual/philosophical questions I had. Everytime I learned something new, I always found myself wanting to share it with my friends and Profs in Toronto as well as at Stanford to apply the knowledge further! Overall, being at Stanford was a wonderful learning experience and added an extra dimension of enrichment to my summer research experience.

Another challenge I encountered that was definitely unforeseen was how the slight difference in time zones would prove to be an obstacle in my ability to connect with folks in Toronto (PST in California and EST in Toronto). Before I knew it, I was waking up at 5AM every morning and working until 12AM at night, simply because 6AM in California was 9AM in Toronto. This meant majority of my day was going to classes and having any online meetings, and later in the night I would finally have time to do project-specific work. I do admit that at that time, I sent a lot of emails at 11PM/12AM! This challenge of liaising across time zones was a unique facet of the emerging era of remote work and a wonderful exercise in leadership in this digital domain. A lot of leadership in this context (and even generally) seems to require two components: (1) the outward characteristics of leadership, such as public speaking and 'personability', and (2) the administrative component, such as being able to write emails quickly, concisely, and with frequency in follow-ups. In this instance specifically, this was troubleshooting technological issues

and coordinating recurring interactions across time zones and contexts. At one point, the heat had gotten so bad my wife would cut out often due to my laptop overheating! Sadly, I wouldn't be able to host meetings inside air-conditioned buildings as those would have offices and have a reduced noise level. This experience challenged me to learn to work **with** my restrictions instead of **against** and constantly worrying about the outcome of meetings when my wife would inevitably cut out for segments of meetings. In having a restriction in my abilities to work efficiently, I learned to accept the limitations that arise instead of constantly trying to mitigate them and expending energy. Go with the flow when issues arise, and with effort, things will work out!



San José City Hall, where I helped out at City Council.

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On the actual research process...

The actual research process was a lot of sitting alone in Green Library, hunched over my computer for hours at a time. I quite enjoyed it actually, because it was time for me to sit alone with my thoughts and work intensely on one project for a specified amount of time each day. Throughout this process, there were plenty of silly and wonderful changes that emerged. Silly in the sense that it should've taken me less time to complete a task, but was wonderful because despite the time taken, desired outcomes came with it! Specifically, I took a week to find a simple dataset for population density, which was just a lot of rummaging around the online Statistics Canada archives for data that ISN'T changed in population over time. I gave myself some grace in taking this time as during this time I was getting settled into the schedule of classes and managing deliverables alongside this project.

Moreover, my hypothesis changed, which was quite a big revelation for me given how this pivots from the

proposed focus in the initial project proposal. In Weeks 2 and 3, I conducted the policy analysis on the Canada Health Act and the Canada Health Transfer's financial deductions. This is because my initial hypothesis posited that depending on the sentiment towards abortion at the federal level, there would be an impact on how stringent the financial penalties to the provinces federally for restricting access to abortion. However, there was so little recorded data on the nature of the deductions themselves, serving only as certain sections in the lengthy 100+ page documents on the Canada Health Act reports, that it was not enough for a lengthy analysis.

In tandem with the reveal of this new design dilemma, I realized after discussions that positive sentiment (saying positive words) and vice versa, did not necessarily mean that an MP was supporting or agreeing with improving abortion access. For instance, a certain MP in the dataset uses strongly negative words, such as “condemn” and “violence”, in order to illustrate a powerful case study of the effects of domestic abuse on the need for providing access to services.

As a result, there was a pivot towards classifying based on words related to advocacy and opposition, such as “women’s rights” and “support” for advocacy and “restrict” and “illegal”. However, in training these terms, there are still plenty of limitations, as the results would still classify a few statements that advocate for abortion as opposition, and vice versa. I acknowledge then, the limitations of not only the method, but also my ability to fine tune based on expertise. In the future, with more time for analysis I would definitely try shibboleths (or terms that are often easy indicators of a certain belief), such as “pre-

born” and “unborn” for opposition terms and “feminism” and “safe_access” for advocacy.

It was quite fun to make the posters and code the visualizations for the paper. Notably, I gained the skill of using LaTeX, which I think will help immensely in future CSS projects. Overleaf itself is quite finicky, so it was an exercise of persistence and ongoing problem solving to be able to resolve the small issues. Furthermore, I learned that a lot of good programming requires the ability of being able to find information on troubleshooting issues - there are a lot of resources online, and I intend to make use of them in my journey to becoming a proficient multidisciplinary researcher and lawyer!

Coming out of this summer research experience, I realize that I want to incorporate elements of computation, law (regulatory), and policy in my future research involvement. This project was a great place to start in terms of developing my fundamental skills, and I look forward to being able to fine-tune future models’ parameters to more accurately classify statements!



The aforementioned place in Green Library where many hours were spent on this project.