# COMPUTER SCIENCE CO-OP WORK REPORT

**TO:** ALAIN BEAUPLARLANT

**FROM:** VIACHESLAV KNYAZEV

**SUBJECT:** COMPUTER SCIENCE CO-OP WORK REPORT

**DATE:** AUGUST 21, 2018

## Introductory Summary

I have worked at the Public Health Agency of Canada under the supervision of Hongbo Liang within the Surveillance Systems and Data Management Section.

## Employer description

The department's goal which is propelled forward through their main product - the Infobase - is to republish public health data quickly online into interactive and accessible format. The Infobase featured data blogs which could be seen as interesting, curated data meant for the public alongside data tools and indicator frameworks which were closer to explorable data dumps destined to be used by analysts are researchers.

## Position Description

Most of my tasks were centered around the aforementioned Infobase. I worked on building a new data tool system using modern technologies in a way to enable future extensibility and make future publishing easier. I was involved in working mostly on the back-end and the database but I also did significant work on the front-end involving dynamic visualizations.

The final couple of weeks of my work term my role changed from developing to documenting. As my system was inherently complex, the documentation it required was throughout and extensive. I used a wiki-like format to documentation any architectural decisions which I took as well as justification of my technical stack.

My goal was to lower the barrier to entry into my code-base to as low as possible given basic experience with .NET MVC.

## Technical Environment

My workstation was a laptop for which I had 2 large screens running Windows 7. My actual work however done within a Virtual Machine running Windows 10 in Azure.

The programming languages I worked with were C# and JavaScript. The frameworks I mostly worked with were .NET Core MVC, D3 and React.

The database used across all projects was Microsoft's SQL Server.

## Skills used and acquired

During the COOP, I have learned C#, .NET, D3, React, Redux and SQL scripting. I also invested into learning tooling such as Flow, Webpack and Babel. As most of my work was on the back-end, the first year of the computer science program did not teach me much which could be applied to my work-term beyond Object Oriented principles.

## Evaluation of co-op experience

I feel like I was not well prepared for this co-op as I had experience with none of their technological stack. I was able to learn everything I needed to know within a few weeks however, so it ended up being a non-issue. The highlight of my co-op experience was showing around my D3 charts which I could see improve each time I implemented the latest round of feedback. It was a very satisfying experience when there was no more actionable feedback.

There is little which could have improved my preparedness outside of knowing the technological stack in advance. The COOP term could have been improved by having clearer tasks given at the very start.

## Conclusion

In conclusion this has been a very positive experience giving itself very little room for improvement as far as the department's capabilities are concerned. I could assert that more mentorship would been a significant improvement, but I understand that the department did not have anyone who could provide that function to me.