

# Evan Mackay

SOFTWARE DEVELOPER

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## Experience

### Software Analyst

Kamloops

THOMPSON RIVERS UNIVERSITY

May, 2019 - Present

- Spearheaded **Docker** adoption in the IT organization for fast prototyping and quick deployment of self-contained solutions.
- Developed and designed a web app using **React** and **Flask** that worked with **GTFS** to show estimated transit arrival and visualized transit data on Google Maps
- Replaced the organization's phone book with a modern web-based application that enabled **full text fuzzy string matching** using both Levenshtein string distance and Soundex pronunciation.
- Developed using **Python** and **Vanilla Javascript** a dashboard using the ticketing system API that allowed managers to visualize up to date ticket information.
- Created a **tensorflow** classifier to automatically classify and create tickets for service requests from emails.
- Designed, developed and deployed scalable MVC web apps with **Flask** on **Azure** using **Azure Active Directory** and **SQL**
- **Migrated Legacy** in house applications to scalable **Azure SQL Server** webservices

### IT Service Desk Analyst

Kamloops

THOMPSON RIVERS UNIVERSITY

Feb. 2018 - Present

- Provided first line tech support to students, staff, and faculty to assist in both software and hardware troubleshooting on **Windows** and **Unix** systems.
- Used **Powershell** and **PDQ** to automatically deploy Linux and other applications to remote computers.
- Automated **ERP** interactions with **Python** and **SQL** to streamline processes and reduce cognitive load.
- Used **AutoHotKey**, **Powershell**, and **Python** to automate **Active Directory** resulting in **90%** decrease in time taken with password resets.

### Student Researcher

Kamloops

THOMPSON RIVERS UNIVERSITY

July, 2016 - Sept. 2016

- Research alternative privacy focused methods of counting the population of people in an area.
- Implemented an accurate and effective queue monitoring solution for the Campus' Tim Hortons location using passive WiFi monitoring. Presented at the **Undergraduate Conference** and is currently used in production in **TRU's Mobile App**
- Used **Google Cloud Platform** to create a website to display Tim Hortons queue status that reached over **2,200 monthly visitors**.

## Education

### Thompson Rivers University

Kamloops

BACHELOR OF COMPUTING SCIENCE

2019

Specialization in Software Engineering; Deans List

Selected Courses: Ethical Hacking, Cloud Computing, Data Science, Bioinformatics

## Volunteer

### Instructor

Kamloops

BIG LITTLE SCIENCE CENTRE

Jun, 2017 - Jun, 2017

- Developed curriculum to teach elementary aged students an introduction to electronics and programming using the **Arduino** platform.
- Used project based teaching to customize learning methods on an individual basis.

### President

Kamloops

TRU COMPUTING SCIENCE CLUB.

2017 - 2019

- Managed events and oversaw social media interaction for the second largest club at TRU
- Organized the largest L.A.N. party in Kamloops for two consecutive years.

### Contestant

Vancouver

IEE ACM INTERNATIONAL COLLEGIATE PROGRAMMING CONTEST

2017 - 2018

- Represented TRU 2 years running at I.C.P.C. Pacific North West Regional Competition.
- Consistently archived the highest out of previous TRU competitors.
- Solved problems using **Python** and **C++** in a high pressure fast paced environment.

# Presentations

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## Snack and Learn: Machine Learning

PRESENTER

*Kamloops*

*April 2019*

- Explained the basics of machine learning.
- Showcased a classifier that was trained to automatically classify emails into respective categories in the ticketing system

## Snack and Learn: Python for Data and Automation

PRESENTER

*Kamloops*

*Jan. 2019*

- Showcased to the TRU IT department how python can be used to manipulate data and automate tasks

# Projects

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## British Columbia Pub Crawl Maker

HACKATHON GROUP MEMBER

*iTel Networks*

*Nov. 2019*

- Used British Columbia Liquor Licence **open data** with the **Google Maps API** to find the GPS location of every pub in the province.
- Used the GPS location on a Cartesian plane along with the traveling salesman algorithm to find the shortest pub crawl of all pubs in B.C.

## Utilizing Probabilistic Subsequence Methods and Markov Chains: Identifying Relationships in Protein Sequences

SCHOOL PROJECT

*Thompson Rivers University*

*April 2019*

- Used **Bloom Filters** and **Markov Chains** to align protein sequences
- Presented this paper at the end of year Computing Science Showcase at TRU

## Class Elective Finder

SCHOOL PROJECT

*Thompson Rivers University*

*April 2019*

- Developed an Android app using **Android Studio** and the school **API** to allow students to search for electives that fit within their given schedule

## BC Ferries Command Line Interface

PERSONAL PROJECT

*West Vancouver*

*August, 2017*

- Reversed Engineered BC Ferries web interface and used **Python** to create a command line interface to assist with data collection and analytics.

## Bug Bounty

THOMPSON RIVERS UNIVERSITY

*Kamloops*

*2018 - Present*

- Discovered and responsibly reported several high priority XSS and other vulnerabilities throughout different systems.

# Publications

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## Using RSSI to Estimate the Number of Users in a Queue

RESEARCHER AT TRU UNDERGRADUATE RESEARCH CONFERENCE

*Kamloops*

*2018*

- Researched the feasibility of using RSSI to estimate the number of users in the Tim Hortons queue on campus.