

# Lior Bragilevsky, MSc, EIT

## Full-stack Developer

Former research assistant at SFU's Multimedia Laboratory (2017-2020). Worked on a variety of machine learning projects and was funded by the Alexander Graham Bell Canada Graduate Scholarship – Master's. Enjoys learning new things and constantly challenging himself. Actively looking for software development opportunities to further advance his career.

lbragile@sfu.ca

778-991-1051

2274 Latimer Avenue, V3K 3J5, Canada, BC



Portfolio  
bit.ly/2Cr1jW8



LinkedIn  
bit.ly/33OfWOu



GitHub  
bit.ly/3ixUH7G

## WORK EXPERIENCE

### Graduate Deep Learning Research Assistant

**Simon Fraser University, Burnaby, BC**

**Sep 2018 – Apr 2020**

- ❖ Developed tensor completion simulator to analyze existing state-of-the-art algorithms and prevent transmission errors;
- ❖ Published a journal manuscript in IEEE Access (IEEE Xplore) which outlined my proposed tensor completion algorithm and compared it against other algorithms. Goal was to provide a meaningful solution to advancing Machine Learning onto edge (mobile) devices (171 views & 12 downloads worldwide);
- ❖ Presented a demonstration conference paper at MMSP 2018 to illustrate the goal of this research work and present findings along with future work (696 views & 168 downloads worldwide);
- ❖ Published a thesis paper based on the journal manuscript – successfully defended (only minor revisions required);
- ❖ Submitted a poster to a conference to a conference (IEEE CTW 2020) highlighting the results of my proposed tensor completion algorithm.

### Head Teaching Assistant for Upper Division & Cross-listed Graduate Courses

**Simon Fraser University, Burnaby, BC**

**Sep 2018 – Apr 2020**

- ❖ Courses:  
Deep Learning Systems (ENSC 413/813), Digital Communications (ENSC 428), Linear Systems (ENSC 380), Engineering Electromagnetics II: Design (ENSC 416), Engineering Electromagnetics I (ENSC 316).
- ❖ Duties:  
Marking (assignments, projects, and exams), holding office hours, assisting students in need through online discussions, and invigilating in exams.

### NSERC Undergraduate Student Research Assistant (USRA) Intern – Co-op Student

**Simon Fraser University, Burnaby, BC**

**May – Dec 2017**

- ❖ Designed a Machine Learning image classification algorithm to aid in the prevention of deforestation around the world;
- ❖ Analyzed satellite images of the Amazon rainforest basin to extract features used to train a deep Convolutional Neural Network model;
- ❖ Published a conference paper (PACRIM 2017) to explain the above image classification algorithm and its purpose;
- ❖ Published a thesis paper outlining the results/findings related to the research work (443 views & 253 downloads worldwide) – successfully defended (only minor revisions required).

### Satellite Communication – Co-op Student

**SilverTip Telematics Inc., Burnaby, BC**

**Jan – Apr 2016**

- ❖ Devised testing automation scripts using VEE Pro 9.32 for more efficient and accurate measurement collection of various test cases/scenarios;
- ❖ Assembled the final product of a given project from start to finish using various machinery equipment to produce a visually appealing product for the client;
- ❖ Analyzed the final product by performing various quality control tests to ensure proper operation;
- ❖ Fixed any bugs found in the performance testing and repeated the tests to make sure the final product was functioning exactly as the client requested.

## EDUCATION

### Master of Applied Science – M.A.Sc (Research based)

**Simon Fraser University, Burnaby, BC**

**Sep 2018 – Apr 2020**

- ❖ Engineering Science – Deep Learning (Accelerated Program, First Class with Distinction)
- ❖ CGPA: 4.17/4.33

### Bachelor of Applied Science Honours – B.A.Sc Hons.

**Simon Fraser University, Burnaby, BC**

**Sep 2014 – Aug 2018**

- ❖ Engineering Science – Electronics Engineering (Honours with Distinction)
- ❖ CGPA: 3.96/4.33

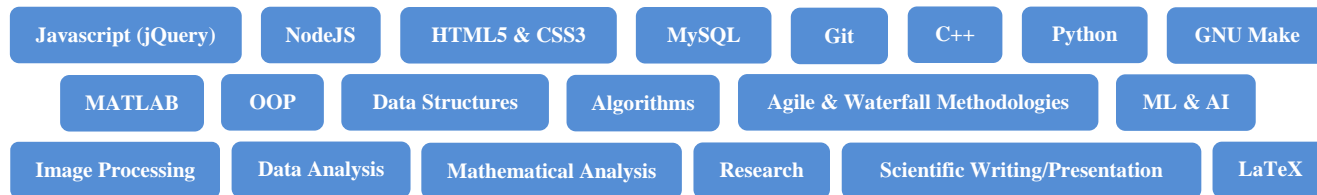
### High-school Diploma – Gold Cord Honours

**Burnaby Mountain Secondary School, Burnaby, BC**

**Sep 2009 – Aug 2014**

- ❖ STEM Courses – En route to Engineering Field
- ❖ CGPA: 4.00/4.00, University Admission Average: 93.5% (Top 3 STEM Courses + English 12)

## TECHNICAL SKILLS



## PERSONAL PROJECTS

### LogInPlay – Login & User Authentication System + Multi-Client Communication

Aug 2020 – Present

- ❖ Built a login system that allows users to register and login (after verifying their email) – persistent due to MySQL database;
- ❖ Passwords are encrypted and information is stored in JSON web tokens & cookies to maintain activity over multiple tabs;
- ❖ Embedded Javascript templates are used to simplify error handling and increase markup code reuse;
- ❖ Socket communication is implemented to allow multiple machines to communicate with one another in a game of tic-tac-toe.

### SimplifyCOVID – Global Statistics Made Simple

Jun – Aug 2020

- ❖ Created an interface where users can access real-time statistics regarding the COVID19 pandemic using intuitive actions such as hovering over a country on a map;
- ❖ This website uses API calls to reputable sources to gather these statistics as soon as they become available;
- ❖ Features user controls/switches, global statistics, an interactive world map, graphs, and tables.

### chessCAMO – Back-end & Front-end Chess Engine

Apr – Jul 2020

- ❖ Developed both the back-end and front-end (GUI) of a chess game, to gain experience designing a sophisticated game from scratch and enhance my coding skills;
- ❖ Added extra features to a regular chess game to introduce a new, interesting, and unique chess variant;
- ❖ Posted my source files on GitHub and created documentation explaining the reasoning of each design step to help others learn from my experience.

### De-sketch – AI Model for Converting Mathematical Plots to Corresponding Equations

May 2018 – Mar 2019

- ❖ Designed a deep learning model that can capture images of mathematical drawings to predict their equations;
- ❖ Model provided accurate estimates of polynomial curves for both synthetically-generated and hand-drawn curves;
- ❖ Presented the methodology and results at a conference as a demo poster (696 views & 168 downloads worldwide).

### PaintBot – Automated Room Paining Robot

Jan – Aug 2018

- ❖ Constructed a robot that can automatically be placed anywhere in a room and can paint the walls while avoiding any obstacles or masked off areas;
- ❖ Worked in a team of 5 students and our work was praised due to its originality, complexity, documentation, and execution.

### TGen – AI Model for Text Generation using Recurrent Neural Networks

Sep – Dec 2017

- ❖ Implemented recurrent neural networks to generate paragraphs of text based on an input string's contextual information and relevant patterns;
- ❖ Presented final performance of the model, with a live demo, in a graduate level course (Deep Learning Systems in Engineering) for random text input by fellow students.

## HONOURS & AWARDS

- |  |                     |
|--|---------------------|
| 1. British Columbia Graduate Scholarship (BCGS) × 1 → \$15,000 CAD               | Sep 2020 – 2021     |
| 2. Graduate Fellowship Scholarship × 2 → \$3,250 to \$6,500 CAD                  | May – Dec 2019      |
| 3. Hargreaves Scholarship in Sciences and Applied Sciences × 1 → \$1,700 CAD     | Sep – Dec 2019      |
| 4. Borden Ladner Gervais Graduate Scholarship × 1 → \$1,000 CAD                  | Jan – May 2019      |
| 5. Helmut and Hugo Eppich Family Graduate Scholarship × 1 → \$1,000 CAD          | Jan – May 2019      |
| 6. Alexander Graham Bell Canada Graduate Scholarship-Master's × 1 → \$17,500 CAD | Sep 2018 – 2019     |
| 7. NSERC Undergraduate Student Research Award (USRA) × 1 → \$4,500 CAD           | May – Sep 2017      |
| 8. Undergraduate Open Scholarship × 7 → \$300 to \$1,800 CAD                     | Oct 2015 – Aug 2018 |
| 9. SFU Alumni Scholarship × 3 → \$500 to \$1,000 CAD                             | Sep 2014 – May 2018 |
| 10. President's Honour Roll × 4  | May 2016 – Aug 2018 |
| 11. Dean's Honour Roll × 8   | Sep 2015 – Aug 2018 |

## ORGANIZATIONS

- |  |                    |
|--|--------------------|
| 1. Institute of Electrical and Electronics Engineers (IEEE) – Young Professionals      | Jan 2020 – Present |
| 2. Engineers and Geoscientists of British Columbia (EGBC) – Engineer in Training (EIT) | Jul 2019 – Present |
| 3. Institute of Electrical and Electronics Engineers (IEEE) – Student Member           | May 2017 – Present |

## LANGUAGES



## INTERESTS

