

Alexander William Wong

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Work Experience

- Senior Software Developer** Jan 2021 to *Current*
Intuit Edmonton, Alberta, Canada
- W10** Built features to enhance the QuickBooks Online First Time Use dynamic experience questionnaire. Supported end user facing homepage features by reviewing pull requests and coordinating contributions across teams. Created and contributed to internal tooling for low code web and rapid experimentation framework.
- Graduate Research Assistant** Jan 2020 to Dec 2020
Canadian VIGOUR Centre Edmonton, Alberta, Canada
- W9** Master's research in cardiovascular health domain. Built shallow/deep learning and statistical models to diagnose multi-lead electrocardiograms. Integrated research code with Alberta Health ECG systems.
- Graduate Teaching Assistant** Sep 2018 to Dec 2019
University of Alberta Edmonton, Alberta, Canada
- W8** TA for Fall 2018 CMPUT 174 (Introduction to the Foundations of Computation I) and Winter 2019 CMPUT 404 (Web Based Information Systems). Created in-depth lab materials and instructed lab sessions.
- Software Development Contractor** Nov 2017 to Jul 2018
EPCOR Utilities Incorporated Edmonton, Alberta, Canada
- W7** Nine month contract for DevOps team. Completed outstanding issues and deployed public facing Interactive Voice Response (IVR) integration with Schneider SCADA product for grid outage notifications.
- Software Developer** Jan 2017 to Jun 2017
Go Auto Corporate Edmonton, Alberta, Canada
- W6** Built web applications for Go Auto dealerships across Canada for inventory, contract, and sales management. Built programmatic text and call features for interactive advertisements and user targeted sales.
- Software Development Contractor** Dec 2016 to May 2017
Telus Corporation Edmonton, Alberta, Canada
- W5** Six month contract for internal networking team. Hardened internal web services with authentication modules and SSL. Wrote Netconf/YANG parsing middleware for converting hardware signals for API use.
- Course Developer** Jun 2016 to Aug 2016
University of Alberta Edmonton, Alberta, Canada
- W4** Created course materials for Fall 2016 CMPUT 396 (Topics in Computer Science: Games, Puzzles, and Algorithms). Built solvers and interactive puzzles (mazes, peg solitaire, sliding tile, chess, Go, and Hex).
- Software Development Contractor** Mar 2016 to Aug 2016
Telus Corporation Edmonton, Alberta, Canada
- W3** Six month contract for OptikTV operations team. Created interactive dashboards for diagnostics and visualizing OptikTV system health. Integrated with Splunk for additional analytics and data processing.

- Undergraduate Teaching Assistant** Jan 2016 to Apr 2016
 W2 University of Alberta Edmonton, Alberta, Canada
 TA for Winter 2016 CMPUT 404 (Web Based Information Systems). Designed lab material for learning web system fundamentals and building practical applications. Led lab sessions and graded submissions.
- Software Developer Intern** May 2014 to Aug 2015
 W1 Pason Systems Corporation Calgary, Alberta, Canada
 Sixteen month specialization industrial internship requirement. Supported development work for oil and gas drilling technology. Contributed to measuring rig device usage to enable "pay per use" billing feature.

Education

- M.Sc. Computing Science** Sep 2018 to Jun 2021
 University of Alberta; Supervisor: Dr. Abram Hindle Edmonton, Alberta, Canada
 Thesis: Multilabel Classification and Analysis of 12-Lead Electrocardiograms
- B.Sc. w/ Specialization in Computing Science - Software Practice** Sep 2010 to Jun 2016
 University of Alberta Edmonton, Alberta, Canada

Publications

Conference Papers

- C4 "Multilabel 12-Lead Electrocardiogram Classification Using Beat to Sequence Autoencoders",
 Alexander W. Wong, Amir Salimi, Abram Hindle, Sunil V. Kalmady, Padma Kaul.
International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2021 Primary Author
- C3 "Multilabel 12-Lead Electrocardiogram Classification Using Gradient Boosting Tree Ensemble",
 Alexander W. Wong, Weijie Sun, Sunil V. Kalmady, Padma Kaul, Abram Hindle.
Computing in Cardiology (CinC), 2020 Primary Author
- C2 "Syntax and Stack Overflow: A methodology for extracting a corpus of syntax errors and fixes",
 Alexander William Wong, Amir Salimi, Shaiful Chowdhury, Abram Hindle.
International Conference on Software Maintenance and Evolution (ICSME), 2019 Primary Author
- C1 "What do developers know about machine learning: a study of ML discussions on StackOverflow",
 Hareem Sahar, Abdul Ali Bangash, Alexander William Wong, Shaiful Chowdhury, Abram Hindle,
 Karim Ali.
International Conference on Mining Software Repositories (MSR), 2019 Researcher/Co-Author

Journal Papers

- J1 "Nutritional quality and price of food hampers distributed by a campus food bank: a Canadian
 experience.", Mahsa Jessri, Arvin Abedi, Alexander Wong, Ghazaleh Eslamian.
Journal of Health, Population, and Nutrition, 2014 Jun; 32(2): 287–300. Researcher/Co-Author

Preprints

- R1 "Tracing Forum Posts to MOOC Content using Topic Analysis", Alexander William Wong, Ken
 Wong, Abram Hindle.
arXiv:1904.07307 [cs.IR] (Computer Science, Information Retrieval), 2019 Apr. Primary Author

Posters

- P2** "Neural Model Compression for Real-Time Computer Vision on Mobile Devices"
UofA & Huawei Innovation Workshop, 2019, University of Alberta, Edmonton, Canada Author
- P1** "Syntax and Stack Overflow: A methodology for source code error and fix extraction"
Reverse EXPO, 2019, University of Alberta, Edmonton, Canada Author

Presentations and Lectures

- T5** "A Beginner's Guide to Lighting Objects in Three.js"
ExchangeJS (Dev Edmonton Meetup), Oct 7 2021, Edmonton, Canada Volunteer Presenter
- T4** "Hyperparameter Search Frameworks: An Overview"
Edmonton Python User Group, Jun 4 2020, Edmonton, Canada Volunteer Presenter
- T3** "Computer Vision: A Practical Introduction to Machine Learning"
Go Auto Corporate, Jul 19 2019, Edmonton, Canada Invited Presenter
- T2** "INSYN: Recommendation Models for Syntactically Incorrect Source Code"
ATB Financial, Jan 31 2019, Edmonton, Canada Invited Presenter
- T1** "Introduction to Generative Adversarial Networks"
Edmonton Python User Group, Sep 11 2017, Edmonton, Canada Volunteer Presenter

Awards and Grants

- A2** "Alberta Excellence Graduate Scholarship"
Government of Alberta, 2019 \$12,000 Scholarship
- A1** "MSc. Early Achievement Runner Up"
University of Alberta, 2019 Award

Intellectual Property

- I1** "UDIA"; Application 1901499; Registration TMA1078724;
Registered Canadian Design Trademark May 20, 2020 to May 20, 2030