

Alexander William Wong

I am a Software Developer with over **5 years of full stack web development** and over **2 years of academic machine learning** experience. I aim to build and design products that creatively fuse machine learning with the modern web.

Email: alex@udia.ca
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GitHub: <https://github.com/awwong1/>
Address: Edmonton, Alberta, Canada

Technical Skills & Software Proficiencies

I use tools like: Git, Docker, Conda, CI/CD, Test Coverage, Code Linters, Debian Linux
I write code in: Python, JavaScript/TypeScript, Elixir, Java, C#, R, HTML, SASS/CSS, Bash
I build web apps using: React, Django, Flask, Phoenix Framework, Apollo/GraphQL, Vue.js, d3.js,
Bokeh, Pelican, Hugo, Gatsby, Serverless
I research with: PyTorch, SciKit-Learn, SciPy, XGBoost, Tensorflow, Keras, Optuna, NNI, Zarr
I deploy to: AWS, Google Cloud, Microsoft Azure, OpenStack, bare metal
I store bits in: SQL (PostgreSQL, MySQL, SQLite3), Redis, DynamoDB, Elasticsearch

Work Experience

- W7 Graduate Research Assistant, Canadian VIGOUR Centre** Jan 2020 to Current
Python, R, LaTeX, PyTorch, XGBoost, SciKit-Learn, SciPy, Docker Edmonton, Alberta, Canada
Master's research in cardiovascular health domain. Built shallow/deep learning and statistical models to classify multi-lead electrocardiograms. Integrated research code with Alberta Health ECG systems.
- W6 Graduate Teaching Assistant, University of Alberta** Sep 2018 to Dec 2019
Python, JavaScript, Django, Flask, Pelican, SQLite3, HTML/CSS Edmonton, Alberta, Canada
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.
- W5 Software Development Contractor, EPCOR Utilities Incorporated** Nov 2017 to Jul 2018
C#, Bash, Microsoft Azure, Twilio, Sendgrid Edmonton, Alberta, Canada
Nine month contract for DevOps team. Deployed public facing Interactive Voice Response (IVR) integration with Schneider SCADA product for electrical power grid outage text and email notifications.
- W4 Software Developer, Go Auto Corporate** Jan 2017 to Jun 2017
JavaScript, Python, React, NodeJS, Flask, MySQL, AWS, Docker Edmonton, Alberta, Canada
Built web applications for Go Auto dealerships across Canada for inventory, contract, and sales management. Created programmatic text and call features for interactive advertisements and user targeted sales.
- W3 Software Development Contractor, Telus Corporation** Dec 2016 to May 2017
Java (Servlet), Bash, Netconf, YANG, Cisco Routers Edmonton, Alberta, Canada
Six month contract for internal networking team. Hardened internal web services with authentication modules and SSL. Deployed Netconf/YANG parsing middleware to convert router signals for API use.
- W2 Software Development Contractor, Telus Corporation** Mar 2016 to Aug 2016
JavaScript, AngularJS, MongoDB, NodeJS, Splunk Edmonton, Alberta, Canada
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.

- W1** **Software Developer Intern**, *Pason Systems Corporation* May 2014 to Aug 2015
Calgary, Alberta, Canada
Java, Python, Bash, Linux, Jenkins
Sixteen month specialization industrial internship requirement. Developed software for oil and gas drilling technology. Contributed to measuring drilling rig device usages for "pay-per-use" billing feature.

Education

- M.Sc. Computing Science**, *University of Alberta* Sep 2018 to Current
Edmonton, Alberta, Canada
Supervisor: Dr. Abram Hindle
Thesis: Multilabel Classification and Analysis of 12-Lead Electrocardiograms
- B.Sc. Spec. Computing Science**, *University of Alberta* Sep 2010 to Jun 2016
Edmonton, Alberta, Canada
GPA: 3.6/4.0

Conference Papers

- 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