Christopher Foster

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Industry Work Experience

Software Developer

September 2016 - Present | Remote

Two Story Robot Labs Inc.

Javascript developer for multiple in-house SaaS products, and contract development for both government and private organizations. While I primarily focus on development, the contracting positions often require support, research, and mentoring roles. I develop with technologies such as Node.js, AWS, C++, Elasticsearch, RethinkDB, AngularJS, CouchDB, Docker, React, and Redux.

Software Developer

September 2012 - September 2016 | Kamloops, B.C.

MemoryLeaf Media Inc.

Full stack web application developer for multiple company SaaS products, as well as external contracting work for government and private organizations. Primarily worked with Javascript.
Developed with technologies such as Node.js, Backbone.js, Marionette.js, jQuery, Elasticsearch, MongoDB, AngularJS, CouchDB, RethinkDB, Docker, and React.js.

Freelance Web Developer

April 2011 - November 2012 | Kamloops, B.C.

Independent Professional

Freelance web developer for a number of local businesses, organizations, and government entities.
Many smaller projects focusing on simple web design for commercial businesses or community outreach, with a few larger projects consisting of full stack web applications made to handle large amounts of data and users.
Websites were designed in raw HTML/CSS and web applications built with MySQL, PHP, jQuery, and Backbone.js.

Education

Master of Science

Major in Computing Science
Research in Machine Learning / Computational Neuroscience
September 2016 - June 2018 (expected)
University of Victoria, Victoria, British Columbia

Bachelor of Computing Science
Specialization in Software Engineering
September 2012 - June 2016
Thompson Rivers University, Kamloops, British Columbia

Conference Presentations

Decoding Word Semantics and Learning in EEG Data via an Artificial Language
Conference on Cognitive Computational Neuroscience (September 2017) - New York, USA
This research project utilizes machine learning ridge regressors to predict word vector features based on input EEG data of a subject reading a word. The experiment is designed as a reinforcement learning paradigm, where the subject is viewing a series of symbols with a 1-to-1 mapping to an English word. As the subject learns the mappings we see word semantics begin to correlate to the brain's EEG readings as detected by a standard "2 vs. 2" test.

Response Time Predictions for Stack Overflow
TRU Undergraduate Research & Innovation Conference (March 2017) - Kamloops, Canada
This research project surrounds the investigation of applications for machine learning algorithms on large web datasets. We explore the application of machine learning in the context of developer mailing list data and more modern communities such as StackOverflow and Github. We improve on the work of a paper which predicts response times to Stack Overflow questions and explore ideas for improving the accuracy and applying to alternative datasets.

Tracking Cattle with Infrared Imaging Drones
UBCO Undergraduate Research Conference (April 2015) - Kelowna, Canada
TRU Undergraduate Research & Innovation Conference (March 2015) - Kamloops, Canada
This research project surrounds the development and investigation of a prototype quadcopter automated drone that can fly over ranching fields and identify cattle with a high-quality infrared camera and our custom computer vision algorithm. By utilizing the onboard GPS, we can generate a list of coordinates for the rancher. This is magnitudes cheaper for ranchers than the traditional method.

Honors and Awards

President's Research Scholarship
September 2016 $4,000
University of Victoria

University of Victoria Fellowship
September 2016 - $13,500 (Declined)
University of Victoria

Outstanding Graduate Entrance Award
September 2016 - $5,000
University of Victoria

Canada Graduate Scholarship Master's Award
September 2016 - $17,500
Natural Sciences and Engineering Research Council of Canada

TRU Medal of Computing Science
June 2016 - Highest Graduating Grade Point Average
Thompson Rivers University

TRU Alumni Association Award
November 2015 - $1,200
Thompson Rivers University

British Columbia District Award
November 2012 - $500
Government of British Columbia

BC Interior Community Foundation Award
October 2012 - $300
BC Interior Community Foundation

British Columbia Provincial Award
September 2012 - $1,000
Government of British Columbia

Relevant Volunteer Experience

Victoria Machine Learning Meetup
May 2017 - Present
Community Organizer

TRUCS Support Lab
September 2015 - December 2015
Support Lab Volunteer

TRUSU Computer Science Club
November 2014 - June 2016
Board Member - President

TRUSU Computer Science Club
March 2014 - November 2014
Board Member - Vice President

TRUSU Computer Science Club
November 2013 - March 2014
Board Member - Events Coordinator

Startup Weekend Kamloops
June 2013 - July 2015
Assistant Organizer

Community Talks and Presentations

The Fundamentals of Neural Networks
Presented to Victoria Machine Learning Meetup
May 2017

Deep Learning for Self Driving Cars
Presented to Advanced Software Engineering Research Seminar
April 2017

Video Super Resolution with Deep Learning
Presented to Computing Science department
April 2017

Recurrent Neural Networks
Presented to CSC591 class
February 2017

Make Neural Nets Great Again
Presented to CSC578 class
November 2016

SwoopVR: A Web-based Mesh Viewer
Presented to Thompson Rivers University faculty
April 2016

Mining Stack Overflow
Presented to Thompson Rivers University faculty
April 2016

Introduction to Functional Programming
Presented to Computer Science Club members
February 2016

Introduction to Automated Testing
Presented to Computer Science Club members
November 2015

Tracking Cattle with Infrared Imaging
Presented to Thompson Rivers University faculty
May 2015

Introduction to Python
Presented to Computer Science Club members
April 2015

Creating Zero-Knowledge SaaS Applications
Presented to the Okanagan Developers Group
October 2014

Introduction to Git
Presented to Computer Science Club members
October 2014

Introduction to Cryptography
Presented to Computer Science Club members
September 2014

Software Certifications

MongoDB Developer Course Certification
December 2012
MongoDB Inc.

Research Interests

- Artificial intelligence, machine learning
- Privacy, applied cryptography, secure communications, and zero-knowledge services
- Software development, open source software, web technologies
- Security in mobile applications, web applications, and networks
- Practical applications of new types of software for fields other than computing science

Personal Achievements

- Placed 10th in the M:18-24 category for Ironman Santa Rosa 2017 Qualifier Triathlon
- Placed 1st in the M:20-24 category for Oliver Half Iron 2016 Triathlon
- Placed 2nd in the M:20-29 category for Kamloops Sprint Sprint 2016 Triathlon
- Placed 3rd in the M:20-29 category for Pavillion Sprint 2015 Triathlon
- Placed 1st in the M:20-29 category for Kamloops Sprint Sprint 2015 Triathlon
- Placed 3rd in the M:20-29 category for Pavillion Sprint 2014 Triathlon
- Placed 1st in the M:16-19 category for Pavillion Sprint 2013 Triathlon

Languages

English
Native Speaker

Esperanto
Limited Working Proficiency

Spanish
Limited Working Proficiency