Hazel Victoria Campbell, Ph.D.

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Ph.D. in Computing Science with a solid background in Software Engineering, Development Tooling, Quality Assurance, Data Science, Operations, Data Gathering & Visualization, and Simulation. Expierience building and deploying development and maintenance tooling with the goal of reducing work load for developers and maintainers. Experience managing small teams and projects. Experience developing and operating scalable (load-balanced and redundant) web services driven by large volumes of data.

Experience

Research Assistant
University of Alberta, 2012-21

- Performed original research in data-driven software engineering tooling
- Created data-driven tools for software development and quality assurance
- Collaborated with other researchers
- Documented and published original research
- Developed of novel methods of helping developers with syntax errors
- Wrote a chapter for a Computer Science textbook

Primary Instructor & Teaching Assistant
University of Alberta, 2013-22

- Developed and taught course materials for a variety of courses
- Planned & restructured courses
- Collaborated with other instructors
- Managed teams of teaching assistants
- Managed small teams of students working on software projects
- Migrated courses to online distance learning

Collaborative Industry–University Research & Development
Bioware (Electronic Arts), 2015-17

- Researched, prototyped, developed, & deployed novel quality assurance techniques
- Developed & deployed:
  - a web application
  - a horizontally scalable ElasticSearch-driven web service
  - a high-throuput import tool to move data from slow, high-latency SQL databases
- Collaborated with QA teams and developers

Education

University of Alberta, 2013-2021
Doctor of Philosophy in Computing Science

University of Montana, 2010-2013
Master of Science in Computer Science

University of Montana, 2003-2009
Bachelor of Arts in Mathematical Sciences
and Mathematical Sciences-Computer Science

Software Engineering
Development & Operations
Software Development Tooling
Quality Assurance Tooling
Automatic Software Repair
Data Science — Statistics
Parsing, Linting & Testing
System Administration & Scripting
Data Visualization
Computational Physics
Scientific Modelling
Simulation
Applied & Abstract Mathematics
Machine Learning
Automatic Differentiation

Collaboration
Leading Small Teams
Project Planning
Problem Solving
Teaching

Web — Full Stack
Embedded — AVR
Unix/Linux — Windows
SQL & NoSQL Databases
IMAP & SMTP — DNS
VPNs & Proxies

C, C++, & Assembly
Python 2 & 3
Java & C#
JavaScript, HTML, & CSS
shell, make, & Perl
PowerShell
R, FORTRAN, & Matlab
Lex, Yacc, & ANTLR
Rust, Haskell, LaTeX

Ansible & Docker
SQL & ElasticSearch
Node & Browser
AJAX & WebSockets
Angular & React
Django & Flask
Topic Modelling
Linear Algebra libraries & solvers
Autotools & CMake

Linear & Abstract Algebra
Combinatorics — Cryptography
Computation & Information Theory
Natural Language Processing
Nonlinear Differential Systems