

Education

UNIVERSITY OF MONTANA, MISSOULA

AUG 2019 – MAY 2021

MASTER OF SCIENCE IN COMPUTER SCIENCE

- Thesis: [The Count](#), a Rust-based ultrafast & memory-efficient sequence alignment software
- Coursework: *Advanced Machine Learning, Advanced Algorithms, Computational Medicine, Data Visualization, Simulation Modeling, Software Optimization*

UNIVERSITY OF MONTANA, MISSOULA

AUG 2016 – MAY 2019

BACHELOR OF SCIENCE, COMPUTER SCIENCE

- Honors: *magna cum laude*
- Capstone Project: A web-based platform built in PHP/Laravel and VueJS for [IC Challenge learning software](#)
 - Served as team lead, handling regular communication between the client and our team
 - Built role-based access control that protects students' privacy and safety
- Coursework: *Big Data Mining, Computational Biology, Design & Analysis of Algorithms, Database Security Genetics & Evolution, Genomics, Machine Learning*

Experience

WHEELER LAB AT UNIVERSITY OF MONTANA

JAN 2018 – PRESENT

RESEARCH ASSISTANT – Computational Genomics

- Exact-match Alignment Software: A CLI tool made to ingest a query file and target file and output the number of times each query sequence is found in the target file
 - Prototyped the software in Python and used it to align large numbers of short DNA/RNA sequences
 - Built a command line interface (CLI) for the software, allowing the tool to accept 2 FASTA files (~50Gb)
 - Led the rewrite of software in Rust, working with team Senior Software Engineer as needed, decreasing alignment software analysis time ~4.5x (from 30min with legacy tools to 2min with Rust version)
- Used established bioinformatics tools (BEDOPS, liftOver, MAFFT, & HMMER/Easel) for large-scale conservation studies with phastcons, phyloP, and manually calculated percent identity
- Updated NINJA phylogeny building software from SSE to AVX architecture for microprocessors

STUDENT AFFAIRS IT

OCT 2016 – AUG 2018

TECHNOLOGY EDUCATOR & CONSULTANT COORDINATOR

- Supervised 10+ tier-2 IT support staff to ensure quick responses and appropriate resolutions of tickets
- Led a team of four technicians responsible for oversight and use of Ivanti Endpoint Management system
- Planned and spearheaded the migration and total overhaul of accumulated documentation, allowing technicians to much more easily access prior research & troubleshooting and address tickets faster

Technical Skills

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|-------------------------------|--------|-------------------------|------------------------------|
| ○ Perl | ○ Rust | ○ Git | ○ Parallel computing |
| ○ Python (TensorFlow, Pandas) | ○ Java | ○ Waterfall development | ○ High performance computing |
| ○ C/C++ | ○ R | ○ Agile | |
| | ○ SQL | ○ TDD | |
| | ○ AWS | | |