

JARED GALLOWAY

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SUMMARY OF QUALIFICATIONS

I've recently graduated from the University of Oregon where I majored in computer and information science and researched population genetics through the use of large-scale simulations. This year, my interest in biological mechanisms has led me to further explore population genetics as a research assistant in both the [Ralph Lab](#) and [Kern Lab](#). My latest project involves training recurrent neural networks with novel data-visualization methods of genealogical history.

TECHNICAL SKILLS

- C/C++, C#, Python, Java, R
- Basic XML / HTML5 / CSS + JavaScript
- Algorithms / Data Structures
- LaTeX, Git, Vim
- Linear Algebra, calculus, Discrete Math
- Evolutionary simulations, SLiM – msprime
- Unix / OS X / Bash
- Concepts in Machine Learning

RELEVANT PROJECTS

Undergraduate Thesis:

Using my background in computer science I was involved in the implementation of *TreeSeq in SLiM 3*. This method provides a computationally feasible way to track the genealogical history of samples throughout a forward-moving simulation. The implementation of this method resulted in orders of magnitude speedup for large-scale simulations by avoiding the computationally heavy task of tracking neutral mutations.

Stickleback Research:

I have created complex evolutionary models and sampled large data sets for statistical analysis. This has resulted in a case study on the impact of migration-selection on rapid and parallel local adaptation of marine Ninespine Stickleback populations to freshwater pockets in Alaska.

Deep Learning on Simulated Data:

My most recent project involves training recurrent neural networks with simulated data such as the genotype matrix to infer and predict population genetics parameters along the genome.

EDUCATION

DEPARTMENTAL HONORS IN COMPUTER AND INFORMATION SCIENCE, BS

Minor - Product Design

University of Oregon, Eugene OR

Graduation Date: June 2018

Major GPA: 3.99 – Cum GPA: 3.58

WORK HISTORY

RESEARCH ASSISTANT, INSTITUTE OF ECOLOGY AND EVOLUTION, EUGENE, OR

August 2018 - Current

BIOINFORMATICS UNDERGRADUATE ANALYST, UNIVERSITY OF OREGON, EUGENE, OR

Sept 2017 - Current

DISCRETE MATH GRADER, UNIVERSITY OF OREGON, EUGENE, OR

Sept 2016 - 2017

WEBSITE: jaredgalloway.org | GITHUB: github.com/jgallowa07