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Summary

I graduated UGA May 2015 with a B.S. in Genetics, with a Certificate of Computing. I am currently a research technician in a computational genetics lab looking for developer jobs.

Skills

- Java, OOP 1 year
- Linux 3 years
- Shell 1 year
- Next-gen sequence analysis < 1 year

- Python < 1 year
- Git < 1 year
- Cluster computing 1 year
- C & C++ < 1 year

Experience

Research Technician - UGA

White lab, Dept. of Genetics   *June 2016 - present*

- Conducting independent computational analyses of next-gen sequence data, using cluster computing and Python scripts (see github)
  - Identify relevant and high quality whole-genome sequences on SRA database
  - Use UGA GACRC high-performance cluster to download and run a series of genomics software in order to process large amounts of sequence data. Run parallel cluster jobs for efficiency
  - Write Python scripts to analyze patterns in sequence depth to elucidate Y chromosome structural variation
  - Wrote algorithm that successfully identifies the boundaries of pseudoautosomal regions in Stickleback fish
  - Write Python scripts to analyze SNP (single-nucleotide polymorphism) density and diversity
  - Ultimate goal of this project is to understand Stickleback Y chromosome diversity at the population level
  - Weekly meetings with PI to discuss progress and scientific literature
- Molecular genetics experiments
  - Use bacterial artificial chromosomes for DNA transformation, cloning, extraction, and purification for genome assembly
    - troubleshooted protocol to increase DNA yield
  - PCR & PCR cloning using *E. coli*
  - Gel electrophoresis
- Maintain fish facility

Steet lab, Complex Carbohydrate Research Center   *June 2015 - June 2016*
- Bred and maintained transgenic strains of zebrafish
    - Maintained transgenic strain purity by genotyping via fluorescent microscope. Each transgenic line had a fluorescent protein marker
- Performed zebrafish husbandry and facility maintenance. I maintained strict organization and scheduling in order to keep the fish healthy and the Aquaneering fish systems running smoothly

Undergraduate Researcher   *January - May 2015*
Kissinger Lab, Center for Tropical and Emerging Global Diseases
- Performed computational analyses of NUMTs (nuclear mitochondrial transfer sequences) in order to identify strain specific sequences in *Toxoplasma gondii*
- Wrote Java program to parse and filter .txt files of NUMTs and converted this data to a more human-readable excel sheet format
- Participated in weekly lab meetings to learn from the graduate students' projects and presentations

Volunteering

MEDLIFE   *August 2011 - May 2014*
Mobile Clinic trip to Lima, Peru   *December 2011*
- Spent a week setting up medical tents with a group of volunteers and local Peruvian doctors to provide healthcare to people in the pueblo jóvenes (shanty towns) surrounding Lima, serving upwards of 250 individuals a day
- Worked alongside locals in community development projects. Specifically, we constructed a large staircase in the steep, arid mountainsides where the locals lived

Executive Board Member: Spring Benefit Concert Chair   *May 2013 - May 2014*
- Organized and ran the annual battle of the bands benefit concert. Raised over $1000 and beat the previous record
- Assisted with general MEDLIFE executive board tasks

Grady Memorial Hospital Observership   *June 2012 - August 2012*
- Shadowed attending physician and residents during the ER night shifts 11PM -4AM
- Saw a wide variety of emergency medical issue and assisted physicians as needed