Timothy M. Farrell

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Objective

Bio/ bioinformatics/ biomedical engineer position in biotech/ medtech industry.

Summary

Bioengineer with computational and wetlab skill. Most interested in the intersection of automation and biomedicine/ bioengineering.

Education

Master of Science, Bioinformatics, Boston University, 2014-2016
Project: *Clinical sequencing classifier for highly-polymorphic genes*
Activities: West End Boys and Girls Club Tutor
GPA: 3.03/ 4.0

Bachelor of Science, Biomedical Engineering, Rutgers University, 2008-2012
Project: *Optimization of localizable stem-cell immunotherapeutic*
Activities: Army ROTC, Rutgers Future Scholars Mentorship Program
GPA: 3.31/ 4.0

Skills

Laboratory: Genomic library prep, PCR, ELISA, confocal microscopy, cell culture

Math/ Stats/ CS: machine learning, predictive modeling, signal processing, time series, stochastic models, graphical models

Bioinformatics: standard tools (samtools, bedtools, etc.), NGS/ 3GS data, expression data, neuroimaging data, clinical/ biomedical data

Programming:

- Operating systems: Unix-like (preferred), Windows
- General purpose: Python, shell scripting, C++/C, Java/C#, Haskell/ ML
- Data analytics: Python (pandas/ matplotlib), R, MATLAB/ Octave; PostgresSQL, SQLite

Relevant Experience

Research Assistant, Sept 2015 - May 2016
Dept. of Health Sciences, Boston University

Built high-performance preprocessing and preliminary analysis pipeline for dynamic functional connectivity study of Human Connectome Project data (Jason Bohland, PhD). Produced a fast, memory-efficient system that processed 2000 brain images in under 6 hours on a HPC cluster.

Biomedical Informatics Intern, Aug 2015 - May 2016
Dept. of Biomedical Informatics (DBMI), Harvard Medical School (HMS)

Worked to develop a clinical sequencing assay classifier for blood antigen haplotypes, using both NGS and 3GS data/ technologies. Supervised by Peter Tonellato, PhD (DBMI, HMS) and collaborated with William Lane, MD PhD (Dept. of Pathology, Brigham Women's Hospital).

Bioinformatics Intern, May - Aug 2015
Genomic Research Divison, New England Biolabs (NEB)

Investigated development of error mitigation applications for emerging third-generation sequencing technologies (3GS). Setup and streamlined sequencing and computational workflows, facilitating future related work at NEB.

Research Assistant, Dec 2014 - Jan 2016
Dept. of Anatomy and Neurobiology, Boston University Medical Center (BUMC)

Built the data logging, management and analysis infrastructure for a 24-primate study conducted by the BUMC Primate Circadian Rhythm Lab (Irina Zhdanova, MD PhD). Assisted with design and construction of custom laboratory equipment to facilitate data acquisition.