Jeremy Gresham

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Technical Skills

- Experience teaching and training to diverse audiences, from undergraduates to surgeons
- Proficient in technical writing, such as software documentation and troubleshooting instructions
- Experience providing technical support, including hardware and software, code tracing/debugging and general problem solving
- Understanding of basic electronics and soldering
- Experience with microcontrollers, including Arduino and BeagleBone Black
- Proficiency in LaTeX, a technical typesetting language

Programming and Technologies

Bash | Python3 | Pandas | Django | R/Rcpp | C++11/14/17 | STL | Boost | JavaScript | Scala | Linux | Make | CMake | web development | HTML | CSS | Maple | Matlab | Docker and Singularity | AWS EC2/S3/EKS

Education

Master of Science (MS), Mathematics 2011
University of North Carolina Wilmington

Bachelor of Science (BS), Mathematics Minor in Physics 2007
North Carolina State University

Employment

Bioinformatician I/II Durham, NC
Duke Cancer Institute, Bioinformatics Shared Resource *November 2015 - Present*

- Collaborate with cancer researchers and statisticians to support data preprocessing and analysis including developing presentations on topics such as sequencing quality, annotation, concordance analyses, and other items relevant to their research goals
- Develop reproducible pipelines for preprocessing and analysis of Next-Generation Sequencing data from a variety of platforms
- Review and modify pipelines to meet individual project needs, including adapting to differently structured data and study designs
- Adapt preprocessing and analysis pipelines for use on Amazon Web Services using container technology
- Develop command-line tools for creation of reproducible pipelines using container image metadata
- Contributed to bcSeq software package for fast sequence alignment for high-throughput shRNA and CRISPR Screens. Contributions include assisting with algorithm code, multithreading, and custom memory-management code for optimization (4x speed increase)
- Provide independent validation of analysis results generated by colleagues
- Participate in collaborative grant writing, including design of a cloud-based data sharing and analysis platform using a Linked Data approach
- Provide support for Linux, pipeline, and AWS usage within the department
- Create and maintain training materials for new hires

Support Technician
ShopBot Tools, Inc.

Durham, NC
November 2013 - May 2015

- Provided technical support for hardware, software, and mechanical aspects of CNC tools for ShopBot customers
- Collected information about customer issues with construction and installation, operation, configuration, customization, and usage of tools and software. Identify problems, investigate causes, generate tests, and analyze test results. Research technical issues to resolve complex issues. Provide specific instructions and guidance to customers to troubleshoot and resolve issues.
- Was responsible for supporting a range of technical issues, including machine repair, parts replacement, wiring instructions, general tool use, calibration, tool path generation (2D/3D CAD/CAM), coding, and integration into manufacturing processes
- Tracked new product development to prepare for new systems, tools and accessories and understand how they function and how they will be integrated with existing software.
- Assisted in general software testing and suggest improvements to user interface

WakeOne Credential Trainer
Wake Forest Baptist Medical Center

Winston-Salem, NC
June-October, 2012

- Facilitated multiple specialized one-day training sessions for physicians and surgeons to orient them in the use of a new heavily customized Electronic Medical Record (EMR), focusing on accurate documentation of patient visits and surgical consultations
- Provided in-person follow-up support to medical teams upon system implementation
- Analyzed system roll-out and implementation and provided recommendations to programmers regarding design issues and bugs

Graduate Teaching Assistant
UNC-Wilmington

Wilmington, NC
2010-2011

- Independently prepared and delivered lectures and assignments to fit the designated curriculum for two sections of College Algebra, including preparation of exams and quizzes
- Assisted the instructors of four sections of Calculus, including delivering lectures and grading assignments and exams
- Provided walk-in tutoring to undergraduate students, with a specialization in tutoring for advanced Calculus, Linear Algebra, and Differential Equations

Publications

- Lin J, **Gresham J**, Xie J and Owzar K (2017). bcSeq: Fast Sequence Alignment for High-Throughput shRNA and CRISPR Screens. R package version 1.0.1, https://github.com/jl354/bcSeq.
- Thomas Longo, Kathleen F. McGinley, Jennifer A. Freedman, Wiguins Etienne, Yuan Wu, Alexander Sibley, Kouros Owzar, **Jeremy Gresham**, Christopher Moy, Stephen Szabo, Joel Greshock, Hui Zhou, Yuchen Bai, Brant A. Inman, Targeted Exome Sequencing of the Cancer Genome in Patients with Very High-risk Bladder Cancer, European Urology, Volume 70, Issue 5, 2016, Pages 714-717, ISSN 0302-2838, https://doi.org/10.1016/j.eururo.2016.07.049.

  (http://www.sciencedirect.com/science/article/pii/S0302283816304638)

Professional Training

Python Programming
The Iron Yard

Durham, NC
May 2015 - July 2015

Final Project: 'Moovn On' webapp
Description of Responsibilities:
Heroku management and deployment, creation of a django back-end with read-only RESTful API, data gathering, data cleaning, data visualization with D3.js, map making and bubble-charting
Technologies Used:
Python3, Django, django-rest-framework, GIS data from Census.gov and Zillow, ogr2ogr, GeoJSON, TopoJSON, D3.js, JavaScript, jQuery, HTML, Heroku, PostgreSQL, SVG