Timothy L. Tickle, Ph.D.

1-704-777-4245
HTTP://TIMOTHYLTICKLE.BITBUCKET.ORG TIMOTHYLTICKLE@GMAIL.COM

Education:

Harvard School of Public Health (Department of Biostatistics) Boston, MA
Postdoctoral Fellow (Curtis Huttenhower Lab) September 2011-Present

University of North Carolina at Charlotte Charlotte, NC
Doctor of Philosophy in Bioinformatics and Computational Biology May 2011
Bachelor of Science, Major: Computer Science (Cum laude) August 2004

Professional Interests:

Interested in both development and implementation of analysis infrastructure and software systems. Experienced in applying high-dimensional and big data to complex diseases.

Experience:

Postdoctoral Fellow Fall 2011-Present
Harvard University (Department of Biostatistics, Curtis Huttenhower Lab) Boston, MA

- Responsible for the development and validation of methodology and software for translating high-dimensional metagenomics studies to human diseases.
- Assist in and lead clinical data analysis currently including remapping the Human Microbiome Project (comprised of several terabytes of complex data).
- Responsible for adhering to software development practices including versioning, regression/unit testing, lab coding standards, and code reviews.
- Provide documentation, establish a web presence, and support software users.
- Write scientific reports and create custom visualizations.
- Mentor students, lab members, and visiting scientists on analysis and tool use.

Research Assistant Fall 2007-2011
College of Computing and Informatics (UNC-Charlotte) Charlotte, NC

- Was responsible for all work associated with the ovarian exon tumor transcriptome study. Solely performed all wet-lab protocols and dry-lab analysis.
- Performed analysis and developed software and database solutions.

Teaching Assistant Fall 2004-Fall 2007
College of Computing and Informatics (UNC-Charlotte) Charlotte, NC

- Courses included Intro to Bioinformatics, Programming for Biologists, Computer Logic & Design, Computer Organization & Architecture
- Taught classes on programming and CAD-based circuitry design software.

Application Developer Fall 2003-2004
The Vanguard Group Charlotte, NC

- Developed netcentric services (web applications) from design documents.
- Participated in code reviews, presentations, unit testing, performance testing, client acceptance testing and troubleshooting.
- Lead a focus group on the creation and maintenance of automated regression suites.
- Was solely responsible for migrating site emailing services to a new in-house service.
- Coordinated and tested web service environment settings with database administrators.

Honors, Awards, and Assistantships:

International Society for Computational Biology Travel Fellowship 2012-2013
GAANN Scholars Fellowship 2009-2011
TA of the year for the College of Computing and Informatics 2008

Professional Societies:

The International Society for Computational Biology 2010-Present
American Association of Cancer Researchers 2004-2007

Computer Skills:

Operating Systems: Windows, Mac OS, Linux (Ubuntu)
Programming and Scripting Related: C/C++/C#, Java (SE, EE), JDBC, Java 2D API, JSP, JUnit, XML, JSON, Python, NumPy, mlpy, matplotlib, PyUnit, PyCogent, Biopython, R
Bioinformatics Related: 16S amplicon and whole microbial metagenomics analysis, BLAST, Bowtie2, metaPhlan, HUMAnN, LefSe, and other Huttenhower tools
Databases: Oracle, Postgres, SQL
Other Applications: Bitbucket / mercurial, Eclipse, Inkscape, LaTeX, bibTeX
Algorithms: Support Vector Machines (SVMs), Gradient Boosting, Multivariate Regression, K-mediods, Multiple Factor Analysis, Principle Components Analysis (PCA), Principle Coordinates Anlysis (PCoA), Nonmetric Multidimensional Scaling (NMDS), Hierarchical Clustering

Selected Peer Reviewed Publications:

T. L. Tickle, N. Segata, L. Waldron, U. Weingart, and C. Huttenhower, "Two-stage microbial community experimental design," *ISME Journal*, 2013.

N. Segata, D. Boernigen, T. L. Tickle, X. C. Morgan, W. S. Garrett, and C. Huttenhower, "Computational metagenomics for microbial community studies," *Molecular Systems Biology*, vol. 9, 2013.

H. Sokol, T. Tickle, X. Morgan, D. Gevers, K. Devaney, D. Ward, J. Reyes, S. Shah, N. LeLeiko, S. Snapper, A. Bousvaros, J. Korzenik, B. Sands, R. Xavier, and C. Huttenhower, "Dysfunction of the intestinal microbiome in inflammatory bowel disease and treatment," *Genome Biology*, vol. 13, no. R79, 2012.

A. Fodor, T. Tickle, and C. Richardson, "Towards the uniform distribution of null p values on affymetrix microarrays," *Genome Biology*, vol. 8, no. 5, 2007.