

MATTHEW JARRED STRAND

stran104@chapman.edu / (626) 524-4449

8353 Beverly Drive, San Gabriel CA, 91775

Education

- **Chapman University**—Orange, CA
B.S. Mathematics, B.S. Computer Science / Started: September 2006 / Projected Graduation: May 2010
 - GPA: 3.91 (All), 3.90 (Computer Science), 3.95 (Mathematics)

Experience

- **Chapman University/NSF Grant**—Orange, CA
Bioinformatics Software Developer: September, 2008–present
 - Sole developer of <http://ortholog.us>, a bioinformatics search application for identifying genes that are related through speciation.
- **Chapman University**—Orange, CA
Researcher in Machine Learning Group under Dr. Erik Linstead, September 2009-Present
 - Developed Markov models that were used in Eclipse plug-in to validates novice programmers' Java entity-names against those used in 12,000 open source projects.
 - Currently using correlated topic models to evaluate how software concerns change over time.
- **National Center for Biotechnology Information**—Bethesda, MD
ORISE Scientific Visitor Grant Recipient: August 2009
 - Trained by the Conserved Domain Database and Resource Group to perform structure-guided multiple sequence alignments by inspection and annotate conserved domains.
- **American Sports Network**—Rosemead, CA
Web and Database Programmer: September 2005–August 2007 (Started as High School Senior)
 - Comprehensive management of several high-traffic sports-related websites such as <http://modelworldtour.com>, <http://musclemania.com>, and <http://fitnessuniverse.com/>.
 - Developed database applications for competitor submissions and for posting open positions.
- **Meher Montessori Schools**—Monterey Park, CA
Web and Database Programmer: December 2008–present
 - Provide technical consulting and comprehensive site/server maintenance for mehermontessori.org.
 - Developed scripts to migrate large media files to an offsite media server and update all local links.
 - Converting related site mandalihall.org from a loose collection of HTML files to a database application.
- **Rules Inc. Clothing**—Orange County, CA
Main Website Developer: December 2008–May 2009
 - Provided comprehensive site/server maintenance for gymrules.com prior to acquisition by Article.1.

Capabilities

- **Operating Systems:**
 - *nix, Mac OS X, Windows XP/Vista/7/Server 2008
- **Programming Languages:**
 - Java, Python, C++, C, C#, SQL, R, Ruby, PHP, \LaTeX , XHTML/CSS
- **Technical Tools, Frameworks, Systems, and Libraries:**
 - POSIX Threads, GDB, MySQL, Django Web Framework, Apache, Lighttpd, and the .NET Framework
- **Computational Mathematics Systems and Libraries:**
 - Matlab, Mathematica, Minitab, Sage, SPSS, Python Imaging Library, and the GNU Scientific Library

Publications and Presentations

- **Publications**

- **M. Strand**, L. Hughes, R. Duncan, J. Smith., E. Linstead. An Eclipse Plug-in for Enforcing Java Naming Conventions. Accepted for ACM SIGCSE 2010.

- **Mathematical Association of America Conference Posters**

- Applications of Advanced Signal Processing Using Fourier Series Analysis
- Steganography via the Countability of the Rationals and Triangle Numbers

- **Applied Mathematics Research**

- Statistical Methods for High-Dimension Numerical Integration using Markov Chain Monte Carlo: <http://mtechnical.net/static/mcmc.pdf>
- SAGE Plug-ins: Numerical Interpolators, Fourier Series Decomposition, and Ordinary Differential Equation Solvers. <http://mtechnical.net/sage/>

Other

- Received a 4 on the AP Computer Science AB exam (with data structures) as a High School Sophomore.
- First place team at 2005 Cal-State LA Progfest Programming Competition as a High School Junior.