Philip Cayting

88 Bush St. #3211
San Jose, CA 95126
(510) 517-3288

www.pcayting.com
pcayting@acm.org

Education

University of California, Berkeley
B.A. Applied Mathematics, Minor in Computer Science

Computer Skills

Languages and Tools: Python, Java, C, C++, Perl, SQL, LISP, HTML, XML, CVS/SVN, Google Data API, Django Web Framework, Sun Grid Engine

Experience

Stanford University, Stanford CA Jan 2010—Current
Dept. of Genetics—Snyder Lab
Software Developer, Research

- Developed a pipeline for scoring chromatin IP genomic sequencing results
- Interfaced with laboratory information management system through API and direct SQL queries to generate complex reports and supplement supplied user interface
- Managed genomic data submission process

Yale University, New Haven CT Nov 2005—Dec 2009
Dept. of Molecular Biophysics & Biochemistry—Gerstein Lab
Programmer Analyst

- Expanded and maintained web-accessible pseudogene database application
- Analyzed and mined genomic pseudogene data and genomic structural variations
- Extended web-based laboratory management system
- Modified existing database to accommodate changes in data schema
- Integrated large amounts of data into system while maintaining data quality
- Maintained large code-base
- Distributed data across institutions and within the lab

Wheelchairs of Berkeley, Berkeley CA Aug 2002—Aug 2005
Network Administrator / Office Lead

Selected Projects

- Table Element Display: A database application developed to store and display biological data produced by the lab. System designed to incorporate all kinds of data and used meta-information to apply templates for an intelligent display of the data. (Python, MySQL)
- DAS Server: Implemented the Distributed Annotation System protocol to facilitate sharing of genomic data across various institutions and laboratories. Connected DAS Server to existing data sources to simplify data sharing. (Python, MySQL)
- BreakDB: A system to store, display, and annotate genomic structural variations. Records were versioned, so users could see the annotation modifications. A new coordinate system was designed and implemented to account for the recursive nature of structural variations. (Python, MySQL)
- Tracker: Rule-based, event-driven system notifies responsible staff (and supervisors if necessary) when tasks fall out of timeliness using rules set by administrator. Allows for per-order modifications and documentation. (Java, Java Swing, MySQL)

Publications

"Segmental duplications in the human genome reveal details of pseudogene formation." E Khurana, HY Lam, C Cheng, N Carriero, **P Cayting**, MB Gerstein (2010) *Nucleic Acids Res* 38:6997-7007.

"Nucleotide-resolution analysis of structural variants using BreakSeq and a breakpoint library." HY Lam, XJ Mu, AM Stütz, A Tanzer, **P Cayting**, M Snyder, PM Kim, JO Korbel, MB Gerstein (2010) *Nat Biotechnol* 28:47-55.

"PEMer: a computational framework with simulator-based error models for inferring genomic structural variants from massive paired-end sequencing data" J Korbel, A Abyzov, X Mu, N Carriero, **P Cayting**, Z Zhang, M Synder, MB Gerstein (2009) *Genome Biology* 10:R23.

"Comparative analysis of processed ribosomal protein pseudogenes in four mammalian genomes" S Balasubramanian, D Zheng, YJ Liu, G Fang, A Frankish, N Carriero, R Robilotto, **P Cayting**, MB Gerstein (2009) *Genome Biology* 10:R2.

"Pseudofam: the pseudogene families database" HY Lam, E Khurana, G Fang, **P Cayting**, KH Cheung, MB Gerstein (2008) *Nucleic Acids Research* 37:D738-43.

"Uncovering trends in gene naming" M Seringhaus, **P Cayting**, MB Gerstein (2008) *Genome Biology* 9:401.

"Analysis of Nuclear Receptor Pseudogenes in Vertebrates: How the Silent Tell Their Stories" ZD Zhang, **P Cayting**, G Weinstock, MB Gerstein (2007) *Molecular Biology and Evolution* 25:131-43.

"Pseudogene.org: a comprehensive database and comparison platform for pseudogene annotation" J Karro, Y Yan, D Zheng, Z Zhang, N Carriero, **P Cayting**, P Harrison, MB Gerstein *Nucleic Acids Research* (2006) 35: D55-60.

Volunteering

San Francisco Museum of Modern Art Mar 2011—Current

Interests

Strategy board games, photography, politics, traveling