

MATTHEW K.E. SHAW

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Synopsis

Software engineer with five years of experience developing rich internet applications and integrating both cheminformatics and bioinformatics tools into existing systems. Helped design and implement tools that allow scientists to search and view data in such a way that new relationships between pieces of data can be more easily discovered. Enjoys working with a team to solve complex problems and enthusiastically embraces new technologies to improve both user experience and development processes.

- Strong background in software engineering principles and formal mathematics
 - Extensive experience with a range of programming languages including: Java, Groovy, Python, JavaScript, R, Matlab, Perl, PHP
 - Extensive experience with the Dojo, jQuery, Prototype, Scriptaculous JavaScript frameworks
 - Strong experience with the Grails web application framework
- Strong background in machine learning algorithms

Employment History

Present Position

John McNeil & Company, Inc., La Jolla, CA (2006-Present)

Software Developer

- Develop and maintain LabSynch, a web based electronic note book for bench scientists.
- Develop custom extensions to LabSynch for LabSynch customers.
- Independently developed new user interface to LabSynch which enables users to identify new relationships in their data and add new information more easily.
- Developed a Grails web application that allows scientists to define experiment protocols, and register experiments using those protocols.
- Used Perl extensively to process and load Bioinformatics data into a system that allows scientists to explore gene expression across multiple species.
- Developed a Grails web application that allows a third party ELN to integrate with an internal compound registration system.
- Entirely refactored the client side codebase of LabSynch to use the Dojo and jQuery JavaScript framework.

Previous Positions

Isis Pharmaceuticals, Carlsbad, CA (2004)

Internship

- Worked in the Research Informatics group as a summer intern.
- Project included working with the Tox/PK department to develop a web application that allowed users to perform flexible queries on the results of various studies.

Cuyamaca Community College, El Cajon, CA (2003-2004)

MESA Tutor

- Worked in the MESA department (Math, Engineering, Science Achievement)
- Tutoring mathematics, physics, and computer science.

Computer/Informatic Skills

- | | | |
|-----------------|-----------------------------|-----------------------------------|
| • Java | • Grails Web Framework | • R |
| • PHP | • Dojo JavaScript Library | • Matlab |
| • MySQL | • jQuery JavaScript Library | • Ajax |
| • JavaScript | • Perl | Object-Oriented |
| • Ruby on Rails | • Python | (With the prototype.js extension) |

Education

San Diego State University, San Diego, CA (2007 to Present)

Computer Science Masters Program
Intelligent Systems and Robotics

San Diego State University, San Diego, CA (2006)

Computer Science Major, Math minor
Dean's List (Spring 2005)

Course Work & Extracurricular

- Computational Genomics
This course focused on the algorithms and computational techniques used by tools such as blast, muscle, t-coffee, etc., as well as how to use these tools to analyze genomic data.
Presented a paper that discussed the use of stochastic context free grammars in secondary RNA folding structure.
- Web programming with JavaScript, Perl CGI, and Java Servlets.
This course focused on developing dynamic webpage's using the above technology.
- Evolutionary and Adaptive Computation.
This course focused on using biologically inspired models of computation such as genetic algorithms, classifier systems, and agent based frameworks similar to Copycat to address issues in Artificial Intelligence research.
- Presented on the subject of "Biologically Inspired Behavioral Modifiers in the Starcat Framework"
2006 Undergraduate Research Symposium at San Diego State University.
- Eagle Scout. June 2006