Adrian Duong

Computer Scientist | Software Engineer | Bioinformatician
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Experience

Software Engineering Intern
Autumn 2013

Symphony Commerce, San Francisco, California, USA

- Ensured systems were up & running, especially under load; led experimentation with Twemproxy for Redis clustering
- Measured system performance using JMeter, Bash, & Python scripts
- Diagnosed, triaged, & addressed performance issues by code analysis, Java VisualVM, & SQL query analysis
- Designed & implemented primitive access control interface with AngularJS & Spring
- Designed & implemented database generator for deterministic tests

Software Engineering Intern
Winter 2013

Twitter, San Francisco, California, USA

- Explored visualizations for monitoring & alert data using D3.js
- Wrote data-consistency testing utility for internal data API to discover & address bugs
- Improved services alert management web interface

Bioinformatics Technical Analyst
Summer 2012

Ontario Institute for Cancer Research, Toronto, Ontario, Canada

- Analyzed cancer genomics data with programs written in Perl, R, C++ that incorporate survival analysis, data visualization, probabilistic graphical models
- Integrated new data source into Java-based Bayesian network classifier to produce updated biological functional interaction network
- Ported C++ genomics & pathway analysis tool into Java
- Publication in F1000Research (DOI: 10.12688/f1000research.4431.1)

WormBase Web Developer
Autumn 2011

Ontario Institute for Cancer Research, Toronto, Ontario, Canada

- Profiled, tagged, optimized server-sized code for large open-source biological web application based on Perl, Catalyst, AceDB with emphasis on query performance and concurrent connections
- Investigated and documented NoSQL alternatives to AceDB
- Proposed and prototyped CouchDB model to replace AceDB

WormBase Web Developer
Winter 2011

Ontario Institute for Cancer Research, Toronto, Ontario, Canada

- Contributed to MVC stack of WormBase from back-end to front-end with attention to code readability and efficiency
- Developed test framework
- Publication in Nucleic Acids Research (DOI: 10.1093/nar/gkr954)

Bioinformatics Research Assistant   Summer 2010
University of Calgary, Zimmerly Lab, Calgary, Alberta, Canada

- Implemented Perl programs mining Genbank, automating group II intron identification, classification, sequence storage, display
- Linked static lab website with MySQL database using Perl/CGI to provide rudimentary online database interface
- Publication in Nucleic Acids Research (DOI: 10.1093/nar/gkr1043)

Education

Bachelor of Computer Science, Honours Computer Science   September 2009 – April 2014
University of Waterloo, Waterloo, Ontario, Canada

- Bioinformatics specialization; co-operative program
- Graduated with Distinction on Dean's Honours List (91.5% CAV)
- Relevant completed courses: algorithms, data structures & data management, object-oriented software dev., statistics, linear algebra I & II, intro. artificial intelligence, applied probability, operating systems, principles of programming languages, computational techniques in structural bioinformatics, computational techniques in biological sequence analysis

Technologies

Python	R	Java	C/C++	Perl
NoSQL	MVC	HTML(5)	JS	CSS
Haskell	Bash	Scala	MySQL	Emacs
AngularJS	Spring			

Interests

dragon boat racing	fitness & wellness	machine learning
cycling	rock-climbing	lifelong learning
powerlifting	functional programming	mathematics