Michael Chelen

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Summary

Software developer and data analyst, with experience in scientific research and server administration.

- Development of web server software backend and frontend using common frameworks.
- Project planning and management, independently and in coordination with teams.
- Administration of Linux servers, automation of maintainence and deployment tasks.
- Data analysis, including high-throughput and visualization methods.

Education

Carnegie Mellon University

Bachelor of Science, Biological Sciences, 2001 - 2005

Minor, Chemical Sciences

Experience

Science and Technology Consultant

March 2009 - Present

Develop software for web services, data analysis, and backend administration. Perform software implementation and system administration. Plan and coordinate projects with client teams.

Projects:

- **Sidescape** Manage small team for LAMP and Drupal Commerce server administration. Deploy virtual machines hosted on Rackspace and Amazon AWS using Ansible. Mitigate malicious traffic using IP Tables and Fail2Ban.
- **Noodle** Optimize and debug SOLR search queries. Create developer tools for testing Django. Coordinate development using issue tracker and Vagrant.
- **Rayogram** Develop PHP in CiviCRM core to add requested features. Script deployment and bulk migration of Drupal websites on LAMP servers using Bash, Drush, Perl and MySQL.
- **Center for Effective Government** Develop Drupal website with responsive layout to inform visitors about government policy. Implement modules for automated import of RSS content. Administer Drupal software on LAMP server.

Research Associate at The Hampshire Research Institute

June 2008 - July 2008

Assist analysis of public federal agency data using SQL queries. Implemet data migration from .MDB and MS Access to .DBF using open Linux libraries.

Instructor at Kaplan Test Prep and Admissions

September 2005 - April 2006

Primary instructor for Graduate Record Examinations and SAT Reasoning Test classes.

Visiting Scholar at University of Pittsburgh

May 2005 - November 2005

Performed DNA, protein, and plasmid extraction, PCR, cell plating, amplification, and transfection. Assisted high-throughput data analysis of fluorescence micrographs with MatLab and ImageJ.

Undergraduate Researcher at University of Pittsburgh

January 2005 - May 2005

Performed assays including DNA purification and cell plating. Implemented algorithms in MatLab for micrograph analysis.

Website Developer at The Blue Curve

January 2002 - January 2003

Designed and developed database driven websites in small team using ASP, MS Access, SQL, HTML, and CSS.

Research Assistant at National Institutes of Health

June 2002 - August 2002

Study techniques of fluorescent imaging, Southern Blot, cell culture, PCR, and microarray gene testing at NICHD lab. Assist usage of cluster analysis (Minitab) and Excel with VBScript for analysis of experimental data.

Student Intern at Howard Hughes Medical Institute

July 1997 - August 1997

Design interactive learning guides with team of students on aspects of cardiology, neurology, and molecular biology.

Skills

- Programming languages: PHP, Java, JavaScript, BASH, Python, NodeJS
- Server software: Apache, MySQL, SOLR, nginx
- Frontend: HTML, CSS, JQuery, JQuery Mobile, Bootstrap, SASS
- DevOps: Ansible, Vagrant, Docker, Travis CI, Grunt, QUnit
- Version Control: Git, Subversion, CVS
- Data formats: SQL, XML, JSON
- System Administration: IPTables, fail2ban
- Visualization: d3.js, Google Charts, CytoscapeJS, GnuPlot
- Data Analysis: R, Google Fusion Tables, CSVkit, ImageJ, Matlab
- Biology: PCR, Microarray, Fluorescence Microscopy

Honors and Awards

- BioTorrents: A File Sharing Service for Scientific Data, Acknowledged (doi:10.1371/journal.pone.0010071), 2010
- University of Pittsburgh, Visiting Scholar, 2005
- Adenosine: a neuron-glial transmitter promoting myelination in the CNS in response to action potentials (PMCID: PMC1201407), Acknowledged, 2002

Community Service

- Volunteer, Open Knowledge Foundation, 2009-Present
- Member, Habitat for Humanity District of Columbia, 2006
- Member, American Friends Service Committee District of Columbia, 2002
- Member, Habitat for Humanity Carnegie Mellon, 2001
- Volunteer, The Ivymount School Special Education Dayschool, 1999