John Chilton

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Education

M.S. **University of Minnesota**, Computer Science — Minneapolis, MN, USA
Sept 2005 – May 2007
- GPA: 4.00/4.00

B.S. **University of Minnesota**, Computer Science — Minneapolis, MN, USA
Sept 2001 – May 2005
- GPA: 3.99/4.00, Graduated with High Distinction
- Minors: Mathematics and Statistics

Experience

Pennsylvania State University, Research Associate — University Park, PA, USA
Jan 2013 – present
- Software developer on the Galaxy Project
  - a popular web-based platform for bioinformatics
- Lead development of workflow engine features and tool integration framework
- Contributed to multiple peer-reviewed publications on Galaxy infrastructure

University of Minnesota, Senior Software Developer — Minneapolis, MN, USA
Jan 2012 – Jan 2013
- Built Web Services infrastructure enabling collaboration between University of Minnesota and Mayo Clinic (TROPIX project)
- Developed file and metadata store, analytical services, workflow engine, and Google Web Toolkit frontend
- Created secure distributed system for sharing clinical data with Groovy on Grails frontend
- Enabled secure job submissions to Windows clusters via ASP.NET Web Services (C#)
- Deployed and extended Galaxy, an open source Python framework for genomics research
- Developed complex Puppet infrastructure for deploying OpenStack cloud platform

University of Minnesota, Software Developer — Minneapolis, MN, USA
Jan 2007 – Jan 2012
- Involved in every stage of software life cycle for several successful projects
- TROPIX project collaboration with Mayo Clinic for bioinformatics research
- Built Web Services, workflow engines, and cloud deployment systems

University of Minnesota, Teaching Assistant — Minneapolis, MN, USA
Sept 2003 – June 2007
- Grading, office hours, assignment design
- Leading discussions and lecturing in computer lab and classroom settings
- Taught groups ranging from 3 to 120 students

University of Minnesota, Research Assistant - Robotics — Minneapolis, MN, USA
Sept 2005 – Sept 2006
- Member of Multiple Autonomous Robotic Systems laboratory
- Worked on NASA grant to develop C++ application for mobile robot localization and mapping

University of Minnesota, Research Assistant - College Education — Minneapolis, MN, USA
Jan 2005 – Jan 2007
- Investigated methods of promoting student learning in large college classes

University of Minnesota, Bioinformatics Institute Summer Intern — Minneapolis, MN, USA
June 2004 – Aug 2004
- Developed program for statistical analysis of gene expression microarray data

Skills

Languages: Java, Python, Ruby, JavaScript, C, C++, Scheme, Groovy, Bash

Python Frameworks: Django, Galaxy, Fabric, libcloud, virtualenv

Java Frameworks: Hibernate, JPA, Spring, Spring Security, GWT, Jenkins, CXF, Selenium, TestNG, JUnit

Ruby Frameworks: Rails, Puppet, RSpec, Capybara

Web Technologies: HTML, CSS, jQuery, jQuery UI, CoffeeScript, Sass

Databases: MySQL, PostgreSQL, Oracle, Microsoft SQL Server

System Administration: OpenStack, Apache, Tomcat, iptables, nagios, collectl

Version Control: Git, Mercurial, Subversion

Other Languages: PHP, Clojure, Matlab, Haskell, R, LaTeX

Operating Systems: Linux (Ubuntu, Debian, CentOS), Windows

Certifications: Sun Certified Java Programmer

Awards

Wallin Scholarship — University of Minnesota, 2006

Lando Scholarship — University of Minnesota, 2005

Institute of Technology Teaching Assistant of the Year Award — University of Minnesota, 2005

- Awarded to top three IT teaching assistants as voted by students

Academic Excellence Fellowship — UMN Department of Computer Science and Engineering, Various

Publications

The Galaxy platform for accessible, reproducible, and collaborative data analyses: 2024 update — July 2024

The Galaxy Community

10.1093/nar/gkae410 (Nucleic Acids Research)

The Planemo toolkit for developing, deploying, and executing scientific data analyses in Galaxy and beyond — Feb 2023

Simon Bray, John Chilton, Matthias Bernt, Nicola Soranzo, Marius van den Beek, Bérénice Batut, Helena Rasche, Martin Čech, Peter J.A. Cock, Björn Grüning, Anton Nekrutenko

10.1101/gr.276963.122 (Genome Research)

The Galaxy platform for accessible, reproducible and collaborative biomedical analyses: 2022 update — July 2022

The Galaxy Community

10.1093/nar/gkac247 (Nucleic Acids Research)

GalaxyCloudRunner: enhancing scalable computing for Galaxy — Jan 2021

Nuwan Goonasekera, Alexandru Mahmoud, John Chilton, Enis Afgan

10.1093/bioinformatics/btaa860 (Bioinformatics)

No more business as usual: Agile and effective responses to emerging pathogen threats require open data and open analytics — Aug 2020

The Galaxy Community

10.1371/journal.ppat.1008643 (PLOS Pathogens)

Galaxy External Display Applications: closing a dataflow interoperability loop Feb 2020

Daniel Blankenberg, John Chilton, Nate Coraor

10.1038/s41592-019-0727-x (Nature Methods)

Reproducible biomedical benchmarking in the cloud: lessons from crowd-sourced data challenges Sept 2019

Kyle Ellrott, Alex Buchanan, Allison Creason, Michael Mason, Thomas Schaffter, Bruce Hoff, James Eddy, John M. Chilton, Thomas Yu, Joshua M. Stuart, Julio Saez-Rodriguez, Gustavo Stolovitzky, Paul C. Boutros, Justin Guinney

10.1186/s13059-019-1794-0 (Genome Biology)

The Galaxy platform for accessible, reproducible and collaborative biomedical analyses: 2018 update July 2018

The Galaxy Community

10.1093/nar/gky379 (Nucleic Acids Research)

Community-Driven Data Analysis Training for Biology June 2018

Bérénice Batut, Saskia Hiltemann, Andrea Bagnacani, Dannon Baker, Vivek Bhardwaj, Clemens Blank, Anthony Bretaudeau, Loraine Brillet-Guéguen, Martin Čech, John Chilton, Dave Clements, Olivia Doppelt-Azeroual, Anika Erxleben, Mallory Ann Freeberg, Simon Gladman, Youri Hoogstrate, Hans-Rudolf Hotz, Torsten Houwaart, Pratik Jagtap, Delphine Larivière, Gildas Le Corguillé, Thomas Manke, Fabien Mareuil, Fidel Ramírez, Devon Ryan, Florian Christoph Sigloch, Nicola Soranzo, Joachim Wolff, Pavankumar Videm, Markus Wolfien, Aisanjiang Wubuli, Dilmurat Yusuf, James Taylor, Rolf Backofen, Anton Nekrutenko, Björn Grüning

10.1016/j.cels.2018.05.012 (Cell Systems)

Practical Computational Reproducibility in the Life Sciences Apr 2018

Björn Grüning, John Chilton, Johannes Köster, Ryan Dale, Nicola Soranzo, Marius van den Beek, Jeremy Goecks, Rolf Backofen, Anton Nekrutenko, James Taylor

10.1016/j.cels.2018.03.014 (Cell Systems)

Jupyter and Galaxy: Easing entry barriers into complex data analyses for biomedical researchers May 2017

Björn A. Grüning, Eric Rasche, Boris Rebolledo-Jaramillo, Carl Eberhard, Torsten Houwaart, John Chilton, Nate Coraor, Rolf Backofen, James Taylor, Anton Nekrutenko

10.1371/journal.pcbi.1005425 (PLOS Computational Biology)

The Galaxy platform for accessible, reproducible and collaborative biomedical analyses: 2016 update July 2016

Enis Afgan, Dannon Baker, Marius van den Beek, Daniel Blankenberg, Dave Bouvier, Martin Čech, John Chilton, Dave Clements, Nate Coraor, Carl Eberhard, Björn Grüning, Aysam Guerler, Jennifer Hillman-Jackson, Greg Von Kuster, Eric Rasche, Nicola Soranzo, Nitesh Turaga, James Taylor, Anton Nekrutenko, Jeremy Goecks

10.1093/nar/gkw343 (Nucleic Acids Research)

NCBI BLAST+ integrated into Galaxy Oct 2015

Peter J. A. Cock, John M. Chilton, Björn Grüning, James E. Johnson, Nicola Soranzo

10.1186/s13742-015-0080-7 (GigaScience)

Multi-omic data analysis using Galaxy Feb 2015

Jorrit Boekel, John Chilton, Ira R Cooke, Peter L Horvatovich, Pratik D Jagtap, Lukas Kall, Janne Lehtio, Pieter Lukasse, Perry D Moerland, Timothy J Griffin

10.1038/nbt.3134 (Nature Biotechnology)

Community-driven development for computational biology at Sprints, Hackathons and Codefests Dec 2014

Steffen Möller, et al

10.1186/1471-2105-15-S14-S7 (BMC Bioinformatics)

Implementation of Cloud based next generation sequencing data analysis in a clinical laboratory May 2014

Getiria Onsongo, Jesse Erdmann, Michael D Spears, John Chilton, Kenneth B Beckman, Adam Hauge, Sophia Yohe, Matthew Schomaker, Matthew Bower, Kevin A T Silverstein, Bharat Thyagarajan

10.1186/1756-0500-7-314 (BMC Research Notes)

CLIA-certified next-generation sequencing analysis in the cloud Aug 2012

The Whole Galaxy Team at MSI, Ying Zhang, Jesse Erdmann, John Chilton, Getiria Onsongo, Matthew Bower, Kenny Beckman, Bharat Thyagarajan, Kevin Silverstein, Anne-Francoise Lamblin

10.1186/1753-6561-6-S6-P54 (BMC Proceedings)

Workflow for analysis of high mass accuracy salivary dataset using MaxQuant and ProteinPilot search algorithm June 2012

Pratik Jagtap, Sricharan Bandhakavi, LeeAnn Higgins, Thomas McGowan, Rongxiao Sa, Matthew Stone, John Chilton, Edgar Arriaga, Sean Seymour, Tim Griffin

Proteomics

Minnesota Congenital Heart Network: Construction and Implementation of an Inter-operable Standards-Based Information Model Oct 2010

Robert R. Freimuth, Michael Meiners, John Chilton, Jim Johnson, Benjamin Lynch, Genevieve Melton, Sheri Crow

AMIA 2010 Annual Symposium

LTQ-iQuant: A freely available software pipeline for automated and accurate protein quantification of isobaric tagged peptide data from LTQ instruments Aug 2010

Getiria Onsongo, Matthew Stone, Susan Van Riper, John Chilton, B. Wu, LeeAnn Higgins, T. Lund, John Carlis, Tim Griffin

10.1002/pmic.201000189 (Proteomics)

Presentations

Rapidly Bringing Software to Biologists with Galaxy and Docker Nov 2014

John Chilton, Björn Grüning, Eric Rasche, the Galaxy Team

Biological Data Science, Cold Spring Harbor, NY

Building More Powerful Galaxy Workflows with Dataset Collections July 2014

John Chilton, the Galaxy Team

2014 Galaxy Community Conference, Baltimore, MD

Galaxy as an Extensible Job Execution Platform July 2013

John Chilton, the Galaxy Team

15th Annual Bioinformatics Open Source Conference, Boston, MA

Open Source Configuration of Bioinformatics Infrastructure July 2013

John Chilton, Pratik Jagtap, Benjamin Lynch, Brad Chapman, Timothy Griffin

14th Annual Bioinformatics Open Source Conference, Berlin, Germany

Innovative, Reproducible MS-based Proteomic Informatics in the Cloud for Emerging Applications with Galaxy-P and CloudBioLinux July 2013

John Chilton, James Johnson, Ebbing de Jong, Getiria Onsongo, Benjamin J. Lynch, Pratik D. Jagtap, Timothy J Griffin

2nd Mass Spectrometry Special Interest Group (MS-SIG), Berlin, Germany

Galaxy-P: Beyond Proteomics July 2013

John Chilton, James Johnson, Getiria Onsongo, Ebbing de Jong, Pratik Jagtap, Timothy Griffin

2013 Galaxy Community Conference, Oslo, Norway

Creating Cooperative Competition: Learning Games for the Classroom Apr 2007

Maria Gini, John Chilton, Murray Jensen
Academy of Distinguished Teachers Conference, Minneapolis, MN

Using the AIBOs in a CS1 Course Mar 2007
John Chilton, Maria Gini
AAAI Spring Symposium - Robots and Robot Venues, Palo Alto, CA

Learning Games: Creating Cooperative Competition Nov 2006
John Chilton, Maria Gini
Collaboration for the Advancement of College Teaching and Learning, Bloomington, MN

Service

- Reviewer for IEEE International Conference on Robotics and Automation (ICRA), 2006
- Reviewer for Robotics: Science and Systems (RSS), 2006

Activities

- University of Minnesota ACM Programming Team (2002-2005)