Curran Kelleher

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http://github.com/curran/portfolio
774 437 9956

EDUCATION

Ph. D. candidate in Computer Science, expected graduation May 2014
University of Massachusetts Lowell, MA

Master of Science in Computer Science, GPA 3.74
University of Massachusetts Lowell, MA (December 2012)

Bachelor of Science in Computer Science with Bioinformatics, GPA 3.38
Junior Year Study Abroad at Technische Universität Darmstadt, Germany
University of Massachusetts Lowell, MA (December 2010)

Intensive Course in Dynamics of Complex Systems
Massachusetts Institute of Technology, Cambridge, MA (January 2006)

TECHNOLOGY SKILLS

JavaScript, CoffeeScript, HTML5 (Canvas, WebGL, WebSockets), Node.js, MongoDB, Java, Groovy (Grails), Clojure, Unix shell scripting, Python, C#, C++, C, CUDA, SQL, SPARQL.

SOFTWARE ENGINEERING AND RESEARCH EXPERIENCE

Software Engineer and Research Assistant
Institute for Visualization and Perception Research (IVPR)
University of Massachusetts Lowell, Lowell, MA (June 2005 - January 2012)

- Developed algorithms for automated pedigree layout in collaboration with Massachusetts General Hospital for clinical breast cancer risk assessment
- Co-project manager of the Weave project, oversaw server side development
- Worked as part of the development team of the Weave web-based visual analytics platform
- Contributed to the book "Interactive Data Visualization" by Ward, Grinstein and Keim
- Authored JyVis, an open source interactive visualization platform (Java, Python, Groovy)
- Authored utilities for named entity aggregation and full text search (Java, Lucene)
- Worked with a team of four to develop a visual document management system in C#
- Implemented session history recording and replay in the Universal Visualization Platform - IVPR's Java-based information visualization system

Guest Researcher
Data Analysis and Visualization Group
University of Konstanz, Germany (June - August 2010, June - August 2011)

- Designed and prototyped the Universal Data Cube, a technology for dissemination and integration of semantically interlinked heterogeneous hierarchical data cubes
- Worked on conceptual research on visualizing overlapping heterogeneous data cubes

Software Engineer and Research Assistant
Computer Graphics Center (ZGDV), Darmstadt, Germany (October 2007 - August 2008)
- Designed and implemented software for overlaying hairstyles on face pictures (Java)
- Worked with a team of three to design and implement a real-time vision-based markerless motion tracking (visual hull reconstruction and pose estimation) system (C, C++, CUDA)

Software Engineer and Research Assistant
New England Complex Systems Institute (NECSI), Cambridge, MA (January - June 2006)
- Worked with a small team to develop a visualization and simulation platform for earth-wide socioeconomic dynamics (Java)

Research Assistant
University of Massachusetts Medical School, Worcester, MA (June 2004 - June 2005)
- Assisted researchers with biological experiments investigating the role of RNAi components in drosophila (fruit fly) embryonic axis specification and related phenomena

TEACHING EXPERIENCE

Teaching Assistant
University of Massachusetts Lowell, MA (January 2012 - May 2013)
- Computer Graphics II (Spring 2013)
- Introduction to Algorithms (Spring 2013)
- Computer Graphics I using OpenGL ES (Fall 2012)
- Foundations of Computer Science (Spring 2012)

Teacher of "Computer Programming and Interactive Graphics"
Massachusetts Institute of Technology, Cambridge, MA (July - August 2012)
- A 52-hour evening course for high school students
- Covering JavaScript and HTML5 graphics
- Part of the MIT Junction program

Teacher
Massachusetts Institute of Technology, Cambridge, MA (July - August 2007)
- Co-taught an 8-week course with MIT student Justin Curry, entitled "Gödel, Escher, Bach: A Mental Space Odyssey". Lecture videos available on MIT's OpenCourseWare, content also available here. Part of the MIT High School Studies Program.

PUBLICATIONS

- Haim Levkowitz, Curran Kelleher. "Cloud and mobile Web-based graphics and visualization". IGI Global's "Encyclopedia of Information Science and Technology"

- Haim Levkowitz, Curran Kelleher. “Cloud and mobile Web-based graphics and visualization”. Tutorial at SIBGRAPI 2012, Ouro Preto, Brazil
- Brian Drohan, Curran Kelleher, Georges Grinstein, Kevin Hughes. "Assessing Risks for Families with Inherited Cancers". Workshop on Visual Analytics in Healthcare: Understanding the Physician’s Perspective. October 2011
- Curran Kelleher, Georges Grinstein "The Fractal Perspective Visualization Technique for Semantic Graphs". Fifteenth International Conference on Information Visualisation (IV'11) July 2011 London
- JyVis - A Flexible High Level Visual - Analytics Framework - Technical Report, 2007
- Howard Goodell, Chih-Hung Chiang, Curran Kelleher, Alex Baumann, Georges Grinstein. "Collecting and Harnessing Rich Session Histories" *iv*, pp. 117-123, Tenth International Conference on Information Visualisation (IV'06), 2006
- Howard Goodell, Chih-Hung Chiang, Curran Kelleher, Alex Baumann, Georges Grinstein. "Metrics for analyzing rich session histories" BELIV, 2006

AWARDS

- 2011 Open Source Software World Challenge Certificate of Achievement
- 2011 UMass Lowell Computer Science Department Outstanding Graduate Student Award
- 2009 UMass Lowell Computer Science Department Merit Scholarship for Excellence in Computer Science
- 2008 Technische Universität Darmstadt Scholarship of Excellence

ADDITIONAL

- github.com/curran - ongoing - my open source code repositories
- universaldatacube.org - ongoing - implementation for doctoral dissertation work
- universalvisualization.org - ongoing - my blog on data visualization
- curransoft.com/code - ongoing - a collection of technical guides and open source code
- President of the UMass Lowell Computer Science Graduate Student Organization (CSGSO) September 2012 to May 2013
- Secretary of the UMass Lowell CSGSO September 2011 to May 2012
- IEEE Student Member
- Play bass in President Soup (listen to our 2010 album or 2013 album “Gumbo”)
- Wrote a book on my year abroad in Germany (2008 - 2009)