

My research aims to **simplify the visualization of complex cancer genomics data through the development of novel visualization techniques**. To create meaningful innovation for cancer visual analysis it is imperative to not just create new computational techniques, but to also understand how scientists incorporate visual analysis into their workflows. To that end, my research draws on both quantitative and qualitative methods to inform system development and algorithm design. My long-term goal is to create recommender systems that simplify the design of complex visualizations using knowledge from data visualization, human-computer interaction, and visual perception.

Education

2012–now	Ph.D Computer Science Advisor: David H. Laidlaw	Brown University
2012–2014	Sc.M Computer Science Thesis: The relation between visualization size, grouping, and user performance	Brown University
2008–2012	B.S. Computer Science Minor Religion, <i>Cum laude with highest thesis honors</i> . Thesis: Optimizing an SPT-tree for visual analytics Advisors: Remco Chang, Ben Hescott	Tufts University

Experience

2012–now	Brown University: Graduate Researcher Lead integrative, multidisciplinary visualization research by combining topics in cancer genomics, data visualization, and visual perception. Research involved both large-team and single-person research & development efforts. Honed qualitative and quantitative evaluation as well as statistical analysis skills. Collaborated with Professors Ben Raphael (computational biology), Karen Schloss (psychology), and Jeff Huang (HCI).
2012	Google: Software Engineer Intern Independently designed and implemented full-stack feature for Ripples, a Google+ content discovery visualization. Involved paper prototyping, UI/UX design, Java asynchronous middleware programming, C++ BigTable queries, Javascript visualization programming, and designing for data center resource constraints.
2010–2012	Tufts University: Undergraduate Researcher Pursued independent visualization research in protein structure rendering, Java heap static analysis, and visual analytics. Research spanned user studies, visualization programming, and algorithm design.
2011	Charles River Analytics: Software Engineer/Scientist Intern Independently paper prototyped and implemented environment for controlling multiple, heterogeneous unmanned vehicles in Java/Swing. Designed a user study to test visualization techniques for managing temporal constraints in emergency disaster response.

Teaching

2015	Teaching Certificate I, Sheridan Center, Brown University Refined skills in reflective teaching practices and effective communication.
2015	Guest lecturer: Data Visualization, Tufts University Gave lecture on the role of visual perception and color in effective visualization design.
2010	Head Teaching Assistant: Computer Graphics, Tufts University Co-created course material and homework assignments, graded, and held additional office hours.
2010–2011	Teaching Assistant: Data Structure, Tufts University Taught introductory-level computer science labs and held additional office hours.

Awards

2012-2016	NSF Graduate Research Fellowship
2012-2013	Andries van Dam Graduate Fellowship
2011	Computer Research Association Outstanding Undergraduate Research Award, Honorable Mention
2011	de Florez Prize in Human Engineering
2010	Dean of Engineering Scholar, Tufts' Summer Scholars
2010-2012	Tufts' Cape Cod Club Scholarship
2009-2010	Computer Science, Engineering, and Math Scholars Scholarship

Publications

Peer-reviewed Publications

MAGI: visualization and collaborative annotation of genomic aberrations

Mark D.M. Leiserson, Connor C. Gramazio, Jason Hu, Hsin-Ta Wu, David H. Laidlaw, Benjamin J. Raphael
Nature Methods 12.6 (June 2015) pp. 483–484. *Nature Publishing Group*, 2015

Exploring hierarchical visualization designs using phylogenetic trees

Shaomeng Li, R. Jordan Crouser, Garth Griffin, Connor C. Gramazio, Hans-Jörg Schulz, Hank Childs, Remco Chang
Proc. SPIE 9397 (2015) pages. 2015

Crowdsourcing from Scratch: A Pragmatic Experiment in Data Collection by Novice Requesters

Alexandra Papoutsaki, Hua Guo, Danae Metaxa-Kakavouli, Connor C. Gramazio, Jeff Rasley, Wenting Xie, Guan Wang, Jeff Huang
Proceedings of The AAAI Conference on Human Computation and Crowdsourcing (HCOMP) (2015). 2015

The relation between visualization size, grouping, and user performance

Connor C. Gramazio, Karen B. Schloss, David H. Laidlaw
IEEE Transactions on Visualization and Computer Graphics/VIS 2014 20.12 (Dec. 2014) pp. 1953–1962. 2014

Heapviz: Interactive heap visualization for program understanding and debugging (Extended)

Sean Kelley, Edward Aftandilian, Connor Gramazio, Nathan Ricci, Sara L. Su, Samuel Z. Guyer
Information Visualization 12.2 (2013) pp. 163–177. 2013

Molli: Interactive Visualization for Exploratory Protein Analysis

S. Su, C. Gramazio, D. Extrum-Fernandez, C. Crumm, L.J. Cowen, M. Menke, M. Strait
Computer Graphics and Applications, IEEE 32.5 (Sept. 2012) pp. 62–69. 2012

Heapviz: Interactive Heap Visualization for Program Understanding and Debugging

Edward E. Aftandilian, Sean Kelley, Connor Gramazio, Nathan Ricci, Sara L. Su, Samuel Z. Guyer
Proceedings of the 5th International Symposium on Software Visualization (2010) pp. 53–62. ACM, 2010

Conference Abstracts, Demos, & Posters

Which color means more? An investigation of color-quantity mapping in data visualization

Karen B. Schloss, Connor C. Gramazio, Charlotte Walmsley
Journal of vision/VSS, 2015

Cancer Genome Analysis Tool (CGAT) for the Visualization and Exploration of Combinations of Mutations in Cancer

Mark D.M. Leiserson, Hsin-Ta Wu, Connor C. Gramazio, Benjamin J. Raphael
The 4th Annual The Cancer Genome Atlas Symposium, 2014

MAGI: A Platform for Interactive Visualization and Collaborative Annotation of Combinations of Genetic Aberrations

Mark Leiserson, Hsin-Ta Wu, Connor Gramazio, Benjamin Raphael
The 1st Biological Data Science Meeting, 2014

Optimizing an spt-tree for visual analytics

Connor Gramazio, Remco Chang
IEEE Conference on Visual Analytics Science and Technology (VAST), 2012

Moleint: Reducing Workload through Adaptive Interaction

Megan Strait, Connor Gramazio, Jisoo Park, Sara L. Su, Lenore Cowen

VIZBI, 2012

An analytical approach for the creative design of new visualizations

Garth Griffin, Shaomeng Li, Connor Gramazio, Remco Chang

IEEE Conference on Information Visualization (InfoVis), 2011

Heapviz: A Programmer's Tool for Data Structure Visualization

Edward E. Aftandilian, Sean Kelley, Connor Gramazio, Nathan Ricci, Sara L. Su, Samuel Z. Guyer

IEEE VisWeek Demo, 2010

TuftsViewer: An intuitive interface for viewing 3D protein structures

Menke Matt, Sara L. Su, Connor Gramazio, Caitlin Crumm, Daniela Extrum-Fernandez, Lenore Cowen

3DSIG Workshop at ISMB, 2010

Programming

JavaScript, Python

C, Java

HTML5/CSS3, \LaTeX

Design

Adobe Illustrator

Adobe Photoshop

Paper prototyping

Statistics

R, SPSS

Frameworks/Libraries

d3, ggplot, numpy, Tornado,
node.js, git