

Heidi Lam

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PROFILE

I am a data visualization engineer at Google, where I build analytical tools for a wide audience from data analysts to the general public. Complementary to my engineering projects, I collaborate with researchers to investigate the effectiveness of current visualization practices in real-world settings, and to seek better solutions. My goal is to make data informative for decision-making in our increasingly complex world.

PROFESSIONAL EXPERIENCE

Google Inc., Mountain View, California, USA

Senior Software Engineer (Jul 2008 – Present), Intern Student (2006, 2007)

- Built visualization tools for decision-support analysts in the advertisement and the maps teams. Typical use cases include monitoring product health, analyzing effects of change, first-step diagnosis of known problems, and understanding product usage.
- Built visualizations for Fusion Tables, an online application to gather, visualize, and share moderate sized data tables. Visualizations are embedded in online news sites such as the Guardian.

Agilent Laboratories, Palo Alto, California, USA

Intern Student: Line Graph Explorer (Jul – Oct 2005)

- Built and evaluated a highly scalable visualization technique to display hundreds of line-graphs produced by high-throughput measurement instruments such as microarray and chromatography systems
- Evaluation influenced final design of visualization, which has been incorporated into Agilent's DNA analysis platform

Microsoft Research, Redmond, Washington, USA

Intern Student: Summary Thumbnail (May – Aug 2004)

- Built and evaluated a visualization technique that allows viewing of desktop-sized html documents on PDA-sized displays without horizontal scrolling

Neoteric Technology, Vancouver, British Columbia, Canada

Software Developer and Usability Specialist (Oct 2001 – Apr 2004)

- Built desktop and mobile applications for laboratory sample storage and retrieval, medical laboratory test ordering and viewing, and blood unit tracking

SELECTED PUBLICATIONS

On visual analytics:

- **Lam, H.**, D. Russell, D. Tang, and T. Munzner (2007). Session Viewer: Visual Exploratory Analysis of Web Session Logs. In *Proceedings of the IEEE Symposium on Visual Analytics Science and Technology (VAST'07)*, pp. 147-154.
- Kincaid, R. and **H. Lam** (2006). Line Graph Explorer: Scalable Display of Line Graphs Using Focus+Context. In *Proceedings of the Workshop on Advanced Visual Interfaces (AVI'06)*, pp. 404-411.

On visualization evaluations / theory:

- **Lam, H.**, E. Bertini, P. Isenberg, C. Plaisant, and S. Carpendale (2012). Empirical Studies in Information Visualization: Seven Scenarios. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 18(9): 1520-1536.
- **Lam, H.** (2008). A Framework of Interaction Costs in Information Visualization. *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, 14(6): 1149-1156.

A full list of publications can be found at <http://www.heidilam.com/research.htm#Pubs>.

EDUCATION

Doctor of Philosophy (2004 – 2008), University of British Columbia

- Studied the visualization of large data sets to support exploratory data analysis
- Awarded the NSERC Postgraduate Scholarship (PGS-D2, 42K CDN)
- Awarded the Killam Pre-Doctoral Fellowship (8K CDN)
- Awarded research grants from Agilent Laboratories (36K USD) and Google Inc. (50K USD)

Master of Applied Science (2002 – 2004), Simon Fraser University

- Thesis area: medical laboratory result reporting system for handheld devices
- Graduated with an A+ average

Bachelor of Applied Science (1997 – 2001), Simon Fraser University

- Systems Option, Biomedical Engineering Stream
- Thesis area: online discussion application (awarded with Distinction)
- Graduated with an A- average
- Awarded the NSERC Industrial Postgraduate Scholarship (41K CDN)

Candidate for Doctor of Medicine (1993 –1996), University of Ottawa

- Completed three years of medical studies

Bachelor of Science (1989 –1993), University of British Columbia

- Combined Honours in Biochemistry and Chemistry
- Graduated with the highest mark in the department of Biochemistry
- Awarded the NSERC Postgraduate Scholarship (PGS-A, 31K CDN)

THESIS WORK

- **Lam, H.** (2008). Visual Exploratory Analysis of Large Data Sets: Evaluation and Application. University of British Columbia: *Doctor of Philosophy Thesis*.
- **Lam, H.** (2004). Displaying Medical Laboratory Report on Small Screens. Simon Fraser University: *Master of Applied Science Thesis*.
- **Lam, H.** (2001). From CZWeb to CZTalk: A Graphical Tool for Online Discussion. Simon Fraser University: *Bachelor of Applied Science Thesis*.
- **Lam, H.** (1993). Excess Partial Molar Enthalpies Of 1,2-Propanediol and Water In 1,2-Propanediol-Water Mixtures. University of British Columbia: *Bachelor of Science Thesis*.

PATENTS

- Baudisch, P. and **H. Lam**. Summary Thumbnails. Published filing #20060085743.
- Kincaid, R. and **H. Lam**. Focus plus context viewing and manipulation of large collections of graphs. Published filing #20060028471.

SERVICES

Organizer

- The BELIV workshop series, 2010 - present. BELIV (BEYond time and errors: novel evaLUation methods for Information Visualization) is a bi-annual workshop that focuses on the challenges of evaluation in visualization.

Program Committee Member

- InfoVis: IEEE Symposium on Information Visualization, 2009 - 2011, 2013
- PacificVis: IEEE Pacific Visualization Symposium, 2010

GENERAL INTERESTS AND ACTIVITIES

- Obtained the Licentiate Performer Certificate for Pianoforte from the Trinity College of Music, London, England in May 1996
- Served at the Cancer Information Line to answer questions from the general public regarding cancer for one year in 1993
- Enjoy reading history, science, and literature