Devin Lange

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Education

University of Utah, Salt Lake City, Utah — Fall 2019 – Present

Ph.D. student researching visualization systems advised by Dr. Alexander Lex

University of Minnesota, Minneapolis, Minnesota — 2012 – 2016

B.S. in Computer Science, with minor in Mathematics, *summa cum laude*

Awards and Honors

Honorable Mention for Best Paper Award (top 20 paper out of 445 submissions), IEEE VIS — 2021
Honorable Mention for Best Abstract Award, BioVis — 2021
Shane Robison Fellowship, University of Utah — 2019
Presidential Scholarship, University of Minnesota — 2012

Publications

1. **Devin Lange**, Shaurya Sahai, Jeff M. Phillips, Alexander Lex, *Ferret: Reviewing Tabular Datasets for Manipulation* Computer Graphics Forum (EuroVis), vol. 42, no. 3, pp. 187–198, 2023
   DOI: 10.1111/cgf.14822
   ferret.sci.utah.edu · github.com/visdesignlab/Ferret

2. Derya Akbaba, **Devin Lange**, Michael Correll, Alexander Lex, Miriah Meyer, *Troubling Collaboration: Matters of Care for Visualization Design Study* SIGCHI Conference on Human Factors in Computing Systems (CHI), no. 812, pp. 1–15, 2023
   DOI: 10.1145/3544548.3581168

3. **Devin Lange**, Eddie Polanco, Robert Judson-Torres, Thomas Zangle, Alexander Lex, *Loon: Using Exemplars to Visualize Large-Scale Microscopy Data.* IEEE Transactions on Visualization and Computer Graphics (VIS), vol. 28, no. 1, pp. 248–258, 2022
   DOI: 10.1109/TVCG.2021.3114766
   Honorable Mention Award · loon.sci.utah.edu · github.com/visdesignlab/Loon

4. **Devin Lange**, Francesca Samsel, Ioannis Karamouzas, Stephen J. Guy, Rodney Dockter, Timothy M. Kowalewski, Daniel F. Keefe, *Trajectory Mapper: Interactive Widgets and Artist-Designed Encodings for Visualizing Multivariate Trajectory Data.* In Proceedings of EuroVis Conference (Short Papers), pp. 103–107, 2017
   DOI: 10.2312/eurovisshort.20171141

5. Jose Guillermo Rangel Ramirez, **Devin Lange**, Panayiotis Charalambous, Claudia Esteves and Julien Pettré, *Optimization-based computation of locomotion trajectories for Crowd Patches.* In Proceedings of the Seventh International Conference on Motion in Games, pp. 7–16, 2014
   DOI: 10.1145/2668064.2668094

Professional Experience

Research Assistant for Dr. Alexander Lex, University of Utah — 2020 – present

- Designed and developed cell microscopy visualization systems.
- Designed and developed visualization system for data forensics.

Graduate Research Intern, Ozette Technologies — May 2023 – August 2023

- Developed prototype to visualize aggregate matrices of cell phenotype abundance.

Software Developer, Epic Systems Corporation, Wisconsin 2016 – 2019

- Lead Developer on a 10,000+ hour project to create a tool for reviewing medical result data.
- Organized brain trust to get input from physician leads across many organizations.
- Created and taught learnToCode advanced class after hours to coworkers.

Research Assistant for Dr. Daniel Keefe, University of Minnesota 2015 – 2016

- Developed an open-source application in C++ for viewing and analyzing multivariate trajectory data.
- Created framework to aid in the development of future linking and brushing applications.

Research Assistant for Dr. Julian Pettré, INRIA, France Summer of 2014

- Created and implemented an algorithm to compute locomotion trajectories for the Crowd Patches project.
- Created visualization for video, diagrams, and assisted with paper for publication

Research Assistant for Dr. Stephen J. Guy, University of Minnesota Summer of 2013

- Created pipeline to do offline rendering of crowd simulations using Python and Mitsuba.
- Developed a motion control system for quadcopters in Python.

Teaching

CS 2420 — Introduction to Data Structures and Algorithms, University of Utah, Summer 2022
Instructor. Undergraduate course on fundamentals of computer science.

CS 3500 — Software Practice, University of Utah, Fall 2021
Guest Lecturer. Undergraduate course on fundamentals of software engineering.

COMP 5360/MATH 4100 — Introduction to Data Science, University of Utah, Spring 2021
Teaching Assistant. Undergraduate course on data science.

CS 5630/CS 6630 — Visualization, University of Utah, Fall 2020
Teaching Assistant. Graduate/undergraduate course on visualization.

CSCI 1901H — Honors Intro to Computer Science, University of Minnesota, Fall 2013
Teaching Assistant. Undergraduate course on introductory computer science concepts.

Presentations

Is that right? Visualizations for scientific data quality control

- Invited Talk, Datavisyn Scientific Talk Series, (virtual), November 16, 2023

Ferret: Reviewing Tabular Datasets for Manipulation

- Paper Talk, EuroVis 2023, Leipzig, Germany, June 14, 2023

Loon: Using Exemplars to Visualize Large-Scale Microscopy Data

- Invited Talk, Cancer Cell Plasticity Research Collaboration Group, Huntsman Cancer Institute, University of Utah, Salt Lake City, UT, November 15, 2023;
- Invited Talk, Dagstuhl Seminar, Schloss Dagstuhl, Germany, November 8, 2023;
- Invited Talk, Phase Holographic Imaging, Salt Lake City, UT, November 3, 2023;
- Invited Talk, Visualization and Image Data Management, Harvard VCG, Harvard Medical School, University of Dundee, Sage Bionetwork, OHSU, MGH and Brigham hospitals, and others, (virtual), January 13, 2023
- Paper Talk, IEEE VIS, Virtual, October 29, 2021
- Invited Talk, BioVis at ISCB, Virtual, July 27, 2021
- Invited Talk, Department of Biomedical Informatics, Harvard Medical School, Boston, MA, (virtual) May 12, 2021

Trajectory Mapper: Interactive Widgets and Artist-Designed Encodings for Visualizing Multivariate Trajectory Data

- Paper Talk, EuroVis 2017, Barcelona, Spain, June 2017

- Undergraduate Honors Thesis, Department of Computer Science, University of Minnesota, Minneapolis, MN, May, 2016

</> Technical Skills

Full Stack Development: TypeScript, JavaScript, Vue, D3, SASS, Vega-Lite, Python, C#, C++
Design Software: Adobe Photoshop, Adobe Illustrator, Adobe Premiere

★ Service

Reviewing

IEEE Visualization	2023
IEEE TVCG	2021

Student Positions

College of Engineering College Council Representative, University of Utah	2021 – 2022
Communication Coordinator of Graduate Student Advisory Committee, University of Utah	2021 – 2022
President of Graduate Student Advisory Committee, University of Utah	2020 – 2021