

DEVIN LANGE

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🎓 EDUCATION

Post-Doctoral Training , Harvard Medical School	2024 – Present
Postdoctoral Research Fellow in Biomedical Informatics with Dr. Nils Gehlenborg	
PhD in Computer Science , University of Utah	2019 – 2024
PhD in computer science researching visualization systems with Dr. Alexander Lex	
BS in Computer Science , University of Minnesota	2012 – 2016
major in Computer Science with minor in Mathematics, <i>summa cum laude</i>	

★ AWARDS AND HONORS

Best Paper Award (top 5 paper out of 557 submissions), IEEE VIS	2024
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**, Robert Judson-Torres, Thomas A. Zangle, Alexander Lex, *Aardvark: Composite Visualizations of Trees, Time-Series, and Images*. IEEE Transactions on Visualization and Computer Graphics (VIS), to appear, 2024
DOI: 10.31219/osf.io/cdbm6
★ Best Paper Award · 🌐 vdl.sci.utah.edu/publications/2024_vis_aardvark
2. **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
3. 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
4. **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
5. **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

6. 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 APPOINTMENTS

- Postdoctoral Fellow for Dr. Nils Gehlenborg**, Harvard Medical School 2024 – present
- Conducted research on biomedical data portal visualization interfaces
- Postdoctoral Fellow for Dr. Alexander Lex**, University of Utah 2024 – present
- Research Assistant for Dr. Alexander Lex**, University of Utah 2020 – 2024
- 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

- Aardvark: Composite Visualizations of Trees, Time-Series, and Images**
- Is that right? Visualizations for scientific data quality control**
- PhD Thesis, University of Utah, Salt Lake City, UT, July 29, 2024
 - Invited Talk, Visual Computing Group, School of Engineering and Applied Sciences, Harvard, (virtual), March 22, 2024

- Invited Talk, HIDIVE Lab, Department of Biomedical Informatics, Harvard Medical School, Boston, MA, May 3, 2024
- Invited Talk, Datavisyn Scientific Talk Series, (virtual), November 16, 2023
- Invited Talk, BioVis at ISCB, Montreal, Canada, July 14, 2024

Aggregate Annotated Single-Cell Heatmap Visualizations

- Invited Talk, BioVis at ISCB, Montreal, Canada, July 14, 2024

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	2024
IEEE Visualization	2023
IEEE TVCG	2021

Student Positions

College of Engineering College Council Representative, University of Utah	2021 – 2024
Communication Coordinator of Graduate Student Advisory Committee, University of Utah	2021 – 2022
President of Graduate Student Advisory Committee, University of Utah	2020 – 2021