

Andrew McNutt

Post Doc and incoming Professor in HCI & Visualization

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Education

University of Chicago	Chicago, IL
Ph.D., Computer Science	2017 to 2023
Masters of Science, Computer Science	2017 to 2019
Reed College	Portland, OR
Bachelor of Arts, Physics	2010 to 2014

Professional & Research Experience

2024 to	University of Utah, Assistant Professor
2023 to 2024	University of Washington, Post Doctoral Scholar
2017 to 2023	University of Chicago, Graduate Researcher
2022	Microsoft Research, Intern
2019	Tableau Research, Intern (Visual Analytics)
2015 to 2017	Uber, Data Visualization Engineer II
2014 to 2015	Collaborative Drug Discovery, Scientific Visualization Developer
2013	Reed College, Undergraduate Researcher

Awards

2023	Postdoc Research Award (~\$7,000) (University of Washington)
2022	Siebel Scholars Class of 2023 (\$35,000). <i>Siebel.</i> Doctoral Colloquium Fellowship (~\$4,000). <i>IEEE VIS.</i> Long List in the Business Intelligence Category. <i>Information is Beautiful Awards.</i>
2021	Graduate Council Research Fund (\$400). <i>UChicago Grad.</i> Best Paper Honorable Mention. <i>EuroVis.</i> for <i>What are Table Cartograms Good for Anyway? An Algebraic Analysis</i> (EuroVis21)
2020	InfoVis Best Poster Honorable Mention for Research. <i>IEEE VIS.</i> for <i>A Minimally Constrained Optimization Algorithm for Table Cartograms</i> (VIS20) Best Paper Honorable Mention. <i>ACM SIGCHI.</i> for <i>Surfacing Visualization Mirages</i> (CHI20)
2019	Best Poster in Visualization (~\$200). <i>MindBytes Research Symposium.</i> Graduate Council Travel Fund (\$400). <i>UChicago Grad.</i> Long List for Visual Analytics and Unusual Categories. <i>Information is Beautiful Awards.</i> Teaching Assistant Prize. <i>University of Chicago, Department of Computer Science.</i> 2nd Place for Best in Show. <i>UChicago Art and Science Expo.</i>
2014	Commendation of Academic Excellence. <i>Reed College.</i>

- 2023 [Projectional Editors for JSON DSLs](#)
Andrew McNutt, Ravi Chugh. IEEE VL/HCC. October 2023
- [Metrics-Based Evaluation and Comparison of Visualization Notations](#)
Nicolas Kruchten, Andrew McNutt, Michael McGuffin. IEEE VIS. October 2023
- [On the Design of AI-powered Code Assistants for Notebooks](#)
Andrew McNutt, Chenglong Wang, Rob De Line, Steven M. Drucker. ACM CHI. April 2023
- [A Study of Editor Features in a Creative Coding Classroom](#)
Andrew McNutt, Anton Outkine, Ravi Chugh. ACM CHI. April 2023
- [Doom or Deliciousness: Challenges and Opportunities for Visualization in the Age of Generative Models](#). Victor Schetinger, Sara Di Bartolomeo, Mennatallah El-Assady, Andrew McNutt, Matthias Miller, João Paulo Apolinário Passos, Jane L. Adams. EuroVIS 2023.
- 2022 [No Grammar to Rule Them All: A Survey of JSON-style DSLs for Visualization](#)
Andrew McNutt. IEEE VIS. October 2022.
- [Goethe and Candolle: National Forms of Scientific Writing?](#)
Agatha Kim, Andrew McNutt. Theory in Biosciences. August 2022.
- [Explaining Why: How Instructions and User Interfaces Impact Annotator Rationales When Labeling Text Data](#). Jamar L. Sullivan Jr., Will Brackenbury, Kevin Bryson, Kwam Byll, Andrew McNutt, Yuxin Chen, Michael L. Littman, Chenhao Tan, Blase Ur. NAACL. July 2022.
- 2021 [KondoCloud: Improving Information Management in Cloud Storage via Recommendations Based on File Similarity](#). Will Brackenbury, Andrew McNutt, Kyle Chard, Aaron Elmore, Blase Ur. ACM UIST. October 2021.
- [On The Potential of Zines as a Medium for Visualization](#)
Andrew McNutt. IEEE VIS Short Papers. October 2021.
- [What are Table Cartograms Good for Anyway? An Algebraic Analysis](#)
Andrew McNutt. EuroVis. June 2021. ★ Honorable Mention for Best Paper ★ (juried — top 2)
- [Integrated Visualization Editing via Parameterized Declarative Templates](#)
Andrew McNutt, Ravi Chugh. ACM CHI. May 2021.
- 2020 [Surfacing Visualization Mirages](#)
Andrew McNutt, Gordon Kindlmann, Michael Correll. ACM CHI. April 2020. ★ Honorable Mention for Best Paper ★ (top 5%)
- 2015 [The Schrodinger-Newton System with Self-field Coupling](#)
Joel Franklin, Youdan Guo, Andrew McNutt, Allison Morgan. Journal of Classical and Quantum Gravity. 2015.
- [Open source Bayesian models. 1. Application to ADME/Tox and Drug Discovery Datasets](#)
Alex M. Clark, Krishna Dole, Anna Coulon-Spektor, Andrew McNutt, George Grass, Joel S. Freundlich, Robert C. Reynolds, Sean Ekins. Journal of Chemical Information and Modeling. 2015.

Book Chapters

- 2018 [Data Mining and Computational Modeling of High-Throughput Screening Datasets](#)
Sean Ekins, Alex M Clark, Krishna Dole, Kellan Gregory, **Andrew McNutt**, Anna Coulon Spektor, Charlie Weatherall, Nadia K Litterman, Barry A Bunin. Reporter Gene Assays. 2018.

Theses

- 2023 [Understanding and Enhancing JSON-based DSLs for Visualization](#)
Advised by [Ravi Chugh](#). Ph.D. Thesis. University of Chicago. August 2023.
- 2019 [Design and Analysis of Table Cartograms: Multipurpose Tabular Area-Encoding Displays](#)
Advised by [Gordon Kindlmann](#). Master of Science Thesis. University of Chicago. December 2019.
- 2014 [Nonequivalent Lagrangian Mechanics](#)
Advised by [Nelia Mann](#). Bachelor of Arts Thesis. Reed College. June 2014.

Patents

- 2023 [Surfacing visualization mirages](#)
Michael Correll, **Andrew McNutt**. US20210081874A1. September.

Workshop Papers, Extended Abstracts, and Posters

- 2023 [Only YOU Can Make IEEE VIS Environmentally Sustainable](#)
Elsie Lee-Robbins, **Andrew McNutt**. alt.vis. October 2023. Workshop Paper.
- 2021 [Visualization for Villainy](#)
Andrew McNutt, Lilian Huang, Kathryn Koenig. alt.vis. October 2021. Workshop Paper.
- 2020 [Supporting Expert Close Analysis of Historical Scientific Writings: A Case Study for Near-by Reading](#)
Andrew McNutt, Agatha Kim, Sergio Elahi, Kazutaka Takahashi. IEEE VIS Visualization for the Digital Humanities Workshop. October 2020. Workshop Paper.
- [A Minimally Constrained Optimization Algorithm for Table Cartograms](#)
Andrew McNutt, Gordon Kindlmann. InfoVis Posters. October 2020. Poster. ★ Honorable Mention for Best Poster ★ (juried — top 3)
- [Divining Insights: Visual Analytics Through Cartomancy](#)
Andrew McNutt, Anamaria Crisan, Michael Correll. alt.CHI. April 2020. Extended Abstract.
- 2019 [Textual Analysis & Comparison National Forms of Scientific Texts: Goethe + de Candolle](#)
Agatha Kim, **Andrew McNutt**, S. Sergio Elahi, Kazutaka Takahashi, Robert J Richards. MindBytes Research Symposium. November 2019. Poster. ★ Best Poster in Visualization ★
- [Improving the Scalability of Interactive Visualization Systems for Exploring Threaded Conversations](#). **Andrew McNutt**, Gordon Kindlmann. EuroVis - Posters. Poster. June 2019.
- 2018 [Linting for Visualization: Towards a Practical Automated Visualization Guidance System](#)
Andrew McNutt, Gordon Kindlmann. IEEE VIS VisGuides Workshop. October 2018. Workshop Paper.

Service & Volunteering

Reviewing

CHI	Full Papers (★ ‘21, ★★ ‘22, ★★★ ‘23, ‘24), alt.chi (‘20), Late-Breaking Work (‘22)
EuroVis	Full Papers (‘23)
JOVI	Journal (‘23)
UIST	Full Papers (★ ‘21)
VIS	Full Papers (‘20, ‘21, ‘22, ★ ‘23), Short Papers (‘20, ‘21), alt.vis (‘21, ‘22, ‘23), VisGuides (‘22)
TVCG	Journal (‘22)

★ - Special Recognition for Outstanding Review

Service

2023	alt.vis (IEEE VIS Workshop) Information+ Conference	Organizing Committee
2022	alt.vis (IEEE VIS Workshop) VisGuides (IEEE VIS Workshop)	Organizing Committee Program Committee
2019-2021	UChicago Visualization Reading Group	Founder and Facilitator
2021	EuroVis	Student Volunteer
2020	Chicago Public Schools CSEd Week	Speaker
2019	Open Access VIS / EuroVis South Side Civic	Contributor / Organizer Scopathon Facilitator
2018	UChicago CS Grad Student Ministry	Weekly CS Coffee Break Facilitator
2014	F.L. Griffin Mathfest	Teaching Assistant

Teaching

Instructor

2021 Winter	Data Visualization For Public Policy	CAPP 30239	UChicago (29 students)
2020 Spring	Data Visualization	CMSC 23900	UChicago (55 students)
Winter	Data Visualization For Public Policy	CAPP 30239	UChicago (24 students)
2016-2017	Ubersiversity Speaker		Uber
2015-2017	Visualization Eng-ucation		Uber

Teaching Assistant

2023 Spring	Data Visualization and Communication	DATA 22700	UChicago
2022 Winter	Creative Coding	CMSC 11111	UChicago
2021 Summer	Introduction to Creative Coding	CMSC 19111	Pre-College Immersion (HS) Collegiate Scholars Program (HS)
Summer	Art with Science: Creative Coding		
Spring	Creative Coding	CMSC 11111	UChicago
2019 Spring	Data Visualization	CMSC 23900	UChicago
Winter	Data Visualization For Public Policy	CAPP 30239	UChicago
2018 Fall	Computer Science with Applications 1	CAPP 30121	UChicago
Spring	Data Visualization	CMSC 23900	UChicago
Winter	Introduction to Computer Science 1	CMSC 15100	UChicago
2017 Fall	Computer Science with Applications 1	CMSC 12100	UChicago
2012 Fall	General Physics I	Physics 101	Reed College

Professional Development

2023	College Teaching Certificate	UChicago Center for Teaching
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Presentations & Talks

- 2023 **JSON-based DSLs and the Future of End User Programming**
Microsoft Research, November, 2023, Cambridge, England.
- Projectional Editors for JSON-based DSLs**
VL/HCC, October, 2023, Washington, D.C. USA.
Vega Conf, September, 2023, Seattle, Washington.
- Safer Interfaces for Data Visualization**
University of California Berkeley, May, 2023, Berkeley, California.
Microsoft Research, April, 2023, Cambridge, England (Virtual).
Roux Institute, March, 2023, Portland, Maine.
University of Utah, February, 2023, Salt Lake City, Utah.
- On the Design of AI-powered Code Assistants for Notebooks**
SIGCHI, April, 2023, Hamburg, Germany.
- A Study of Editor Features in a Creative Coding Classroom**
SIGCHI, April, 2023, Hamburg, Germany.
- 2022 **No Grammar to Rule Them All: A Survey of JSON-style DSLs for Visualization.**
IEEE VIS, October 19, 2022, Oklahoma City, Oklahoma.
Microsoft Research, July 14, 2022, Redmond, Washington (Virtual).
- Understanding & Enhancing JSON-based DSL Interfaces for Visualization.**
Shandong University, November 15, 2022, Qingdao, China. (Virtual)
IEEE VIS Doctoral Colloquium, October 15, 2022, Oklahoma City, Oklahoma.
- 2021 **On The Potential of Zines as a Medium for Visualization.**
IEEE VIS, October 27, 2021, New Orleans, Louisiana. (Virtual)
- Visualization for Villainy.**
alt.vis, October 24, 2021, New Orleans, Louisiana. (Virtual)
- How do we know what a visualization is good for? Algebraic Approaches.**
RAMPVIS, August 5, 2021, Oxford, England. (Virtual)
- What are Table Cartograms Good for Anyway? An Algebraic Analysis.**
EuroVis, June 15, 2021, Zurich, Switzerland. (Virtual)
City University London, May 18, 2021, London, England. (Virtual)
- Integrated Visualization Editing via Parameterized Declarative Templates.**
University of California: Berkeley (Chasins Lab), November 3, 2021, Berkeley, California (Virtual)
SIGCHI, May 12-13, 2021, Yokohama, Japan (Virtual)
CHicago Symposium, May 5, 2021, Chicago, Illinois (Virtual)
- 2020 **Supporting Expert Close Analysis of Historical Scientific Writings: A Case Study for Near-by Reading.**
VIS4DH, October 25, 2020, Salt Lake City, Utah (Virtual)
- Surfacing Visualization Mirages.**
CHicago Symposium, May 26, 2020, Chicago, IL (Virtual)
- Divining Insights: Visual Analytics Through Cartomancy.**
CHicago Symposium, May 26, 2020, Chicago, IL (Virtual)

- 2019 **Design and Analysis of Table Cartograms: Simultaneous-Multipurpose Tabular Area-Encoding Displays.**
University of Chicago, June 12, 2019, Chicago, Illinois.
- 2018 **Linting for Visualization: Towards a Practical Automated Visualization Guidance System.**
VIS Guides, October 22, 2018, Berlin, Germany.
- Design Patterns For Data Visualization in React.**
React Chicago, August 29, 2018, Chicago, Illinois.