Andrew McNutt

Ph.D. Candidate in HCI & Visualization

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Education

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

Professional & Research Experience

2022	**Microsoft Research**, *Intern*
2019	**Tableau Research**, *Intern (Visual Analytics)*
2017 to Present	**University of Chicago**, *Graduate Researcher*
2015 to 2017	**Uber**, *Data Visualization Engineer II*
2014 to 2015	**Collaborative Drug Discovery**, *Scientific Visualization Developer*
2013	**Reed College**, *Undergraduate Researcher*

Awards

2023	**Special Recognition for Outstanding Review x3**. *ACM SIGCHI.*
2022	**Siebel Scholars Class of 2023 ($35,000)**. *Siebel.*
	Doctoral Colloquium Fellowship ($\sim$\$4,000). *IEEE VIS.*
	Long List in the Business Intelligence Category. *Information is Beautiful Awards.*
	Special Recognition for Outstanding Review x2. *ACM SIGCHI.*
2021	**Special Recognition for Outstanding Review**. *ACM UIST.*
	Graduate Council Research Fund ($400). *UChicago Grad.*
	Best Paper Honorable Mention. *EuroVis.*
	for *What are Table Cartograms Good for Anyway? An Algebraic Analysis* (EuroVis21)
	Special Recognition for Outstanding Review. *ACM SIGCHI.*
2020	**InfoVis Best Poster Honorable Mention for Research**. *IEEE VIS.*
	for *A Minimally Constrained Optimization Algorithm for Table Cartograms* (VIS20)
	Best Paper Honorable Mention. *ACM SIGCHI.*
	for *Surfacing Visualization Mirages* (CHI20)
2019	**Best Poster in Visualization ($\sim$\$200)**. *MindBytes Research Symposium.*
	Graduate Council Travel Fund ($400). *UChicago Grad.*
	Long List for Visual Analytics and Unusual Categories. *Information is Beautiful Awards.*
	Teaching Assistant Prize. *University of Chicago, Department of Computer Science.*
	2nd Place for Best in Show. *UChicago Art and Science Expo.*
2014	**Commendation of Academic Excellence**. *Reed College.*

Peer-Reviewed Journal and Conference Papers

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

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 [In Progress]**
Advised by Ravi Chugh. Ph.D. Thesis. University of Chicago. Anticipated 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. 2019.

2014   **Nonequivalent Lagrangian Mechanics**
Advised by Nelia Mann. Bachelor of Arts Thesis. Reed College. June 2014.

Patents

2020   **Surfacing visualization mirages**
Michael Correll, **Andrew McNutt**. US20210081874A1 - Patent Pending. March 2021.

Workshop Papers, Extended Abstracts, and Posters

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

★ - Special Recognition for Outstanding Review

Service
2022	**alt.vis** (IEEE VIS Workshop)	Organizing Committee
	VisGuides (IEEE VIS Workshop)	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**	Contributor / Organizer
	South Side Civic	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	Uberversity Speaker		Uber
2015-2017	Visualization Eng-ucation		Uber

Teaching Assistant
2022 Winter	Creative Coding	CMSC 11111	UChicago
2021 Summer	Introduction to Creative Coding	CMSC 19111	Pre-College Immersion (HS)
Summer	Art with Science: Creative Coding		Collegiate Scholars Program (HS)
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	UChicago College Teaching Certificate	[In Progress]

Presentations & Talks

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)

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.