

Andrew M. McNutt

PhD Candidate in HCI & Visualization

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EDUCATION

University of Chicago

PhD, Computer Science

Masters of Science, Computer Science

Chicago, IL

2017 to Present

2017 to 2019

Reed College

Bachelor of Arts, Physics

Portland, OR

2010 to 2014

PROFESSIONAL & RESEARCH EXPERIENCE

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

AWARDS

- 2022 **Siebel Scholars Class of 2023 (\$35,000).** *Siebel.*
Doctoral Colloquium Fellowship (~\$4,000). *IEEE VIS.*
Special Recognition for Outstanding Review x2. *ACM SIGCHI.*
- 2021 **Special Recognition for Outstanding Review.** *ACM UIST.*
Graduate Council Research Fund (\$400). *UChicago Grad.*
Honorable Mention for Best Paper. *EuroVIS.*
for *What are Table Cartograms Good for Anyway? An Algebraic Analysis* (EuroVIS21)
Special Recognition for Outstanding Review. *ACM SIGCHI.*
- 2020 **InfoVis Honorable Mention Poster 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 (~\$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.*

JOURNAL AND CONFERENCE PAPERS

- 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. ACMUIST. 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%)
- 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. Book Chapter.
- 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.

THESES

- 2023 **Understanding and Enhancing JSON-based DSLs for Visualization [In Progress]**
Andrew McNutt (Advised by Ravi Chugh). PhD Thesis. University of Chicago. Anticipated August 2023.
- 2019 **Design and Analysis of Table Cartograms: Simultaneous-Multipurpose Tabular Area-Encoding Displays**
Andrew McNutt (Advised by Gordon Kindlmann). Masters Thesis. University of Chicago. 2019.
- 2014 **Nonequivalent Lagrangian Mechanics**
Andrew McNutt (Advised by Nelia Mann). Undergraduate Thesis. Reed College. June 2014.

PATENTS

- 2020 [Surfacing visualization mirages](#)
Michael Correll, **Andrew McNutt**. US20210081874A1 - Patent Pending. March 2021.

WORKSHOP PAPERS, POSTERS, AND EXTENDED ABSTRACTS

- 2021 [Visualization for Villainy](#)
Andrew McNutt, Lilian Huang, Kathryn Koenig. alt.vis. October 2021.
- 2020 [Supporting Expert Close Analysis of Historical Scientific Writings: A Case Study for Near-by Reading](#)
Andrew McNutt, Agatha Kim, Sergio Elahi, Kazutaka Takahashi. 5th Workshop on Visualization for the Digital Humanities (VIS4DH). October 2020.
- [A Minimally Constrained Optimization Algorithm for Table Cartograms](#)
Andrew McNutt, Gordon Kindlmann. InfoVIS Posters. October 2020. ★ 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. ★ Best Poster in Visualization ★
- [Improving the Scalability of Interactive Visualization Systems for Exploring Threaded Conversations](#)
Andrew McNutt, Gordon Kindlmann. EuroVIS - Posters. June 2019.
- 2018 [Linting for Visualization: Towards a Practical Automated Visualization Guidance System](#)
Andrew McNutt, Gordon Kindlmann. 2nd IEEE VIS Workshop on Creation, Curation, Critique and Conditioning of Principles and Guidelines in Visualization (“VisGuides”). October 2018.

SERVICE & VOLUNTEERING

REVIEWING

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

★ - Special Recognition for Outstanding Review

SERVICE

alt.vis	Organizing Committee	2022
VisGuides	Program Committee	2022
EuroVis	Student Volunteer	2021
Chicago Public Schools CSEd Week	Speaker	2020
Open Access VIS / EuroVIS	Contributor / Organizer	2019
South Side Civic	Scopathon Facilitator	2019
UChicago Visualization Reading Group	Founder	February 2019-March 2021
UChicago CS Grad Student Ministry	Weekly CS Coffee Break Facilitator	2018
F.L. Griffin Mathfest	Teaching Assistant	Spring 2014

TEACHING

Instructor

2021 Winter	Data Visualization For Public Policy	CAPP 30239	UChicago (29 students)
2020 Spring	Data Visualization	CMSC 23900	UChicago (55 students)
2020 Winter	Data Visualization For Public Policy	CAPP 30239	UChicago (24 students)
2016-2017	Ubersiversity 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)
2021 Summer	Art with Science: Creative Coding		Collegiate Scholars Program (HS)
2021 Spring	Creative Coding	CMSC 11111	UChicago
2019 Spring	Data Visualization	CMSC 23900	UChicago
2019 Winter	Data Visualization For Public Policy	CAPP 30239	UChicago
2018 Fall	Computer Science with Applications 1	CAPP 30121	UChicago
2018 Spring	Data Visualization	CMSC 23900	UChicago
2018 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

SKILLS & TECHNOLOGIES

<i>Languages</i>	(Java Type)Script, Python, Ruby, Haskell, Elm
<i>Visualization</i>	d3, Vega ecosystem, WebGL, Tableau
<i>Databases / Analytics</i>	postGRES, MongoDB, Pandas, Redis
<i>Web Dev</i>	Node, React/Redux, Svelte, Ruby on Rails, Flask, Serverless Functions
<i>Other</i>	Latex, Omnigraffle, Sketch, Figma, Mathematica

CERTIFICATES AND TRAININGS

[UChicago College Teaching Certificate](#) — *[In Progress]*

Training on course design, pedagogy, and inclusive teaching practices at a college level. Redesigned the Data Visualization for Public Policy syllabus, drafted lesson plans, and developed a teaching statement.

[App Academy](#) — *August 2014*

Fullstack web dev course covering Ruby (Ruby on Rails) and Javascript (Backbone). Independent project was a twitter-like micro-blogging platform for dreams, which facilitated exploration and visualization of the collective unconscious.

PRESENTATIONS & TALKS

- 2022 *No Grammar to Rule Them All: A Survey of JSON-style DSLs for Visualization.*
IEEEVIS, October 19, 2022, Oklahoma City, Oklahoma.
- 2021 *On The Potential of Zines as a Medium for Visualization.*
IEEEVIS, 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.*
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.