Andrew M. McNutt

PhD Candidate in HCI & Visualization

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EDUCATION

University of Chicago
PhD, Computer Science, 9/2017 to Present   Advised by Ravi Chugh
Masters of Science, Computer Science, 9/2017 to 10/2019   GPA 3.9 / 4

Reed College
Bachelor of Arts, Physics, 2010 to 2014   GPA 3.3 / 4

PROFESSIONAL & RESEARCH EXPERIENCE

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

JOURNAL AND CONFERENCE PAPERS

No Grammar to Rule Them All: A Survey of JSON-style DSLs for Visualization
Andrew McNutt. IEEE VIS. October 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.

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. Computer Graphics Forum—EuroVIS. June 2021. ★ Honorable Mention for Best Paper ★ (Single award juried selection)

Integrated Visualization Editing via Parameterized Declarative Templates
Andrew McNutt, Ravi Chugh. ACM CHI. May 2021.

Surfacing Visualization Mirages
Andrew McNutt, Gordon Kindlmann, Michael Correll. ACM CHI. April 2020. ★ Honorable Mention for Best Paper ★ (top 5%)

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.

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.

WORKSHOP PAPERS, POSTERS, AND EXTENDED ABSTRACTS

Visualization for Villainy
Andrew McNutt, Lilian Huang, Kathryn Koenig. alt.vis. October 2021.

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)

Divining Insights: Visual Analytics Through Cartomancy
Andrew McNutt, Anamaria Crisan, Michael Correll. alt.CHI. April 2020. Extended Abstract.

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.

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.

PATENTS

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

THESES

Understanding and Enhancing JSON-based DSLs for Visualization [In Progress]
Andrew McNutt (Advised by Ravi Chugh). PhD Thesis. University of Chicago. Anticipated August 2023.

Design and Analysis of Table Cartograms: Simultaneous-Multipurpose Tabular Area-Encoding Displays
Andrew McNutt (Advised by Gordon Kindlmann). Masters Thesis. University of Chicago. 2019.

Nonequivalent Lagrangian Mechanics
Andrew McNutt (Advised by Nelia Mann). Undergraduate Thesis. Reed College. June 2014.

AWARDS

Doctoral Colloquium Fellowship. *IEEE VIS*. 2022
Special Recognition for Outstanding Review x2. *ACM SIGCHI*. 2022
Special Recognition for Outstanding Review. *ACM UIST*. 2021
Graduate Council Research Fund. *UChicago Grad*. October 2021
Honorable Mention for Best Paper. *EuroVIS*. 2021 — (single juried selection) for What are Table Cartograms Good for Anyway? An Algebraic Analysis
Special Recognition for Outstanding Review. *ACM SIGCHI*. 2021
InfoVis Honorable Mention Poster Research. *IEEE VIS*. October 2020 — for A Minimally Constrained Optimization Algorithm for Table Cartograms
Best Paper Honorable Mention. *ACM SIGCHI*. March 2020 — (Top 5%) for Surfacing Visualization Mirages
Best Poster in Visualization. *MindBytes Research Symposium*. October 2019
Graduate Council Travel Fund. *UChicago Grad*. October 2019
Long List for Visual Analytics and Unusual Categories. *Information is Beautiful Awards*. September 2019 — for FeX: Forum Explorer and Cycles Rain Seasons in Size
Teaching Assistant Prize. *University of Chicago, Department of Computer Science*. June 2019
Divisional Teaching Award Nominee. *UChicago Physical Sciences Division* . May 2018, May 2019
2nd Place for Best in Show. *UChicago Art and Science Expo*. May 2018, May 2019
Commendation of Academic Excellence. *Reed College*. May 2014 — Merit given to students exhibiting exemplary scholarship

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

alt.vis. Organizing 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 Research Reading Group. Founder. *February 2019-Match 2021*
UChicago CS Graduate Student Ministry. Facilitator of CS Grad Weekly Coffee Break. *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	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)
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

PRESENTATIONS & TALKS

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)

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)

Linting for Visualization: Towards a Practical Automated Visualization Guidance System.
VIS Guides, October 22, 2018, Berlin, Germany.

Design and Analysis of Table Cartograms: Simultaneous-Multipurpose Tabular Area-Encoding Displays.
University of Chicago, June 12, 2019, Chicago, Illinois.

Design Patterns For Data Visualization in React.
React Chicago, August 29, 2018, Chicago, Illinois.

SKILLS & TECHNOLOGIES

Languages	(Java|Type)Script, Python, Ruby, Haskell, Elm
Visualization	d3, Vega ecosystem, webGL, Tableau
Databases / Analytics	postGRES, MongoDB, Pandas, Redis
Web Dev	Node, React/Redux, Svelte, Ruby on Rails, Flask, Serverless Functions
Other	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.