

# Andrew McNutt

Ph.D. Candidate in HCI & Visualization

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[mcnutt.in](http://mcnutt.in)

## Education

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### University of Chicago

Ph.D., Computer Science  
Masters of Science, Computer Science

Chicago, IL  
2017 to 2023 (*Expected*)  
2017 to 2019

### Reed College

Bachelor of Arts, Physics

Portland, OR  
2010 to 2014

## Professional & Research Experience

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|                 |   |
|-----------------|---|
| 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

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

- 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

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- 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

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- 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

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

## Workshop Papers, Extended Abstracts, and Posters

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- 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

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### Reviewing

|         |   |
|---------|---|
| VIS     | Full Papers ('20, '21, '22, '23★), 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

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

### Teaching

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#### Instructor

|             |  |            |                        |
|-------------|--|------------|------------------------|
| 2021 Winter | <a href="#">Data Visualization For Public Policy</a> | CAPP 30239 | UChicago (29 students) |
| 2020 Spring | Data Visualization                                   | CMSC 23900 | UChicago (55 students) |
| Winter      | <a href="#">Data Visualization For Public Policy</a> | CAPP 30239 | UChicago (24 students) |
| 2016-2017   | Ubersersity Speaker                                  |            | Uber                   |
| 2015-2017   | Visualization Eng-ucation                            |            | Uber                   |

#### Teaching Assistant

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

### Professional Development

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|------|------------------------------|--|
| 2023 | College Teaching Certificate | <a href="#">UChicago Center for Teaching</a> |
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## Presentations & Talks

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- 2023 **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)
- 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.