

Ben Jacobsen

408C Eagle Heights
Madison, Wisconsin

505-239-3413
bjacobsen3@wisc.edu
ben-jacobsen.github.io

Research Experience

- **MetroSets** Tucson, AZ
Undergraduate Research Assistant Sep 2019 - Jan 2021
 - Designed and implemented a novel system for set visualization using the metro map metaphor, with sets drawn as subway lines and elements drawn as stations. Subsequently conducted a controlled user study which found that MetroSets outperformed other publicly available tools.
- **Authorship Attribution** Tucson, AZ
Honors Thesis May 2020 - Jul 2021
 - Studied the robustness of machine learning systems designed to classify the author of a binary file. Designed and implemented an adversarial attack on state-of-the-art tools by using non-standard compiler optimizations to obscure an author's stylistic fingerprint.

Publications

Jacobsen, B., Wallinger, M., Kobourov, S., and Nollenburg, M. (2020). *MetroSets: Visualizing Sets as Metro Maps*. IEEE Transactions on Visualization and Computer Graphics.

Wallinger, M., Jacobsen, B., Kobourov, S., and Nollenburg, M. (2021). *On the Readability of Abstract Set Visualizations*. IEEE Transactions on Visualization and Computer Graphics.

Education

- **University of Wisconsin - Madison** Madison, WI
PhD Student, Computer Science Expected 2026
- **University of Arizona (Honors College)** Tucson, AZ
B.A., Mathematics, minor in Computer Science, Summa Cum Laude May 2021
- **Central New Mexico Community College** Albuquerque, NM
A.S. with Highest Honors, Mathematical Sciences August 2019

Work Experience

- **Undergraduate Research Assistant** Sep 2019 - May 2021
University of Arizona
- **Research Data Support Specialist** June 2021 - August 2021
University of Arizona
- **Programming Tutor** June 2020 - August 2021
Private
- **Software Consultant** June 2021 - July 2021
Fyberloom Inc.

Awards and Honors

UA College of Science Excellence in Undergraduate Research Award (Overall Winner)	2021
CRA Outstanding Undergraduate Researcher Honorable Mention	2020
Phi Beta Kappa Honors Society	2021-Present
Phi Theta Kappa Honors Society	2018-Present
Phi Theta Kappa Transfer Scholarship (\$24,000)	2019-2020
Galileo Circle Scholarship (\$1,000)	2020
Best Poster GD2020	2020

Skills

Programming Languages: Python, Java, MATLAB

Natural Languages: English, Mandarin (intermediate)

Operating Systems: Linux (Arch, Ubuntu), Windows 7/10

Tools: L^AT_EX, Git, Docker

Miscellaneous: creative problem solving, public speaking, formal and persuasive writing