

Education

- June 2026 (expected) **PhD, Computer Science & Engineering**, *Washington University in St. Louis*, Missouri, USA.
Advisor: Dr. Alvitta Ottley
- 2021 - 2024 **Master in Computer Science**, *Washington University in St. Louis*, Missouri, USA.
Advisor: Dr. Alvitta Ottley
- 2017 - 2021 **Bachelor of Science, Computer Science & Mathematics**, *Beloit College*, Wisconsin, USA.
Advisor: Dr. Eyad Haj Said

Awards & Honors

- 2023, 2025 Earned **top 15-20% Departmental Honors** in the Department of Computer Science and Engineering through annual review consensus at Washington University in St. Louis.
- 2023 **Best Paper Award** for “Mini-VLAT: A Short and Effective Measure of Visualization Literacy” at *The Eurographics Conference on Visualization (EuroVIS) 2023* (Germany).
- 2021 **Conwell-Huffer Endowed Prize in Mathematics** for outstanding senior mathematics or computer science student at Beloit College.
- 2020 **Walter S. Haven Physics/Astronomy Prize** for outstanding summer research project at Beloit College, Wisconsin.

Research Experience

Adobe Research

- Summer 2025 **Research Scientist/Engineer Intern.**
Developing an intelligent multi-agent LLM framework to assist users in creating aesthetic and visually appealing images. Designed and implemented interactive interfaces, integrated multi-modal reasoning, and conducted user studies to evaluate system effectiveness.
Skills: React.js, Flask, Figma, Adobe Creative Suite, AI/ML, MLLMs, Prompt Engineering, UI/UX, User Studies

Visual Interface and Behavior Exploration Lab (VIBE) @ Washington University

- 2021 - **Graduate Research Assistant.**
Conduct research on visualizations and human perception, design user studies, and apply AI/ML (e.g., MLLMs and Computer Vision) to improve visualization literacy and communication.
Skills: Data Visualization, Statistical Analysis, Psychometrics, Crowdsourcing, AI/ML, Computer Vision, MLLMs, Fine tuning, Prompt engineering, UX Design

American Institutes for Research | Arlington, VA

- 2024 **Doctoral Student Research Intern.**
Developed interactive visual analytics tools and conducted data-driven analyses to explore environmental impacts on education outcomes using air quality and national assessment datasets.
Skills: D3.js, React.js, Node.js, Statistical Analysis (Descriptive & Inferential), Data Visualization, API Data Extraction, Clustering Algorithms, Large Scale Data Analysis

The Brent Lab @ Washington University

- 2021 **Graduate Research Assistant.**
Built image processing and deep learning pipelines (OpenCV + PyTorch) to automate fungal microscopy analysis, enabling efficient segmentation and phenotype classification.
Skills: Python, OpenCV, Image Processing, PyTorch, CNN, Deep Learning

Publications

Preprints and Working Manuscripts

- 2025 **Estimating PM2.5 at North Carolina Public School Locations: A Comparative Study of Data Sources and Interpolation Methods**
Rachel Carroll, Paul Bailey, Saugat Pandey, Dana McCalla, and Thomas Snyder
Submitted to Nature Scientific Reports

Journal & Peer Reviewed Conference Papers

- 2025 **Benchmarking Visual Language Models on Standardized Visualization Literacy Tests** DOI
Saugat Pandey and Alvitta Ottley
Computer Graphics Forum (CGF). Also in *Proceedings of 27th eg Conference on Visualization (EuroVis)* — (Acceptance Rate: 27%)
- 2025 **Trustworthy by Design: The Viewer's Perspective on Trust in Data Visualization** DOI
Oen McKinley, Saugat Pandey, and Alvitta Ottley
Proceedings of the ACM CHI Conference on Human Factors in Computing Systems (ACM CHI) — (Acceptance Rate: 24.5%)
- 2024 **Building and Eroding: Exogenous and Endogenous Factors that Influence Subjective Trust in Visualization** DOI
R. Jordan Crouser, Syrine Matoussi, Lan Kung, Saugat Pandey, Oen McKinley, and Alvitta Ottley
IEEE Visualization & Visual Analytics (IEEE VIS) — (Acceptance Rate: 23.2%)
- 2023 **Do you trust what you see? toward a multidimensional measure of trust in visualization** DOI
Saugat Pandey, Oen McKinley, R. Jordan Crouser, and Alvitta Ottley
IEEE Visualization and Visual Analytics (IEEE VIS) — (Acceptance Rate: 25.8%)
- 2023 **Mini-VLAT: A Short and Effective Measure of Visualization Literacy** DOI
Saugat Pandey and Alvitta Ottley
Computer Graphics Forum (CGF). Also in *Proceedings of 25th eg Conference on Visualization Best Paper Award (EuroVis 2023)* — (Acceptance Rate: 27%)

Workshop Papers and Lightly-Reviewed Articles

- 2025 **Visualization Literacy or Skillset? Beyond the Analogy to Textual Literacy**
Mara Solen, Saugat Pandey, Firas Moosvi, Alvitta Ottley, and Tamara Munzner
To appear @ IEEE VIS Workshop on Visualization for Communication (VisComm) 2025
- 2023 **User Engagement with COVID-19 Visualizations on Twitter** DOI
Robert Kasumba, Saugat Pandey, Vishesh Patel, Micah Wolfson, and Alvitta Ottley
IEEE VIS Workshop on Visualization for Communication (VisComm) 2023

Teaching Experience

- Co-Instructor**, Washington University in St. Louis
Course: Introduction to Visualization
Fall 2024 *Effectiveness: 6.67 vs Dept Avg: 6.11*
Responsiveness: 6.83 vs Dept Avg: 6.18
Recitation Value: 6.80 vs Dept Avg: 6.10
- Undergraduate Teaching Assistant**, Beloit College
2017 - 2021 **Courses:** Introduction to Object-Oriented Programming, Data Structures & Algorithms, Discrete Structures, Computer Architecture, & Fundamentals of Physics

Presentations

- 2025 Invited presentation on “Visualization Library and Data, Design, and LLM” at the St. Louis Medical Librarians (SLML) Annual Awards Ceremony (St. Louis, MO)
- 2023 Presented paper titled “Mini-VLAT: A Short and Effective Measure of Visualization Literacy” at EuroVIS 2023 (Leipzig, Germany)
- 2022 Presented paper titled “User engagement with covid-19 visualizations on twitter” at IEEE VIS Workshop on Visualization for Communication 2023 (Oklahoma City, OK)

Grants & Funded Research

I have been funded by and contributed to the following National Science Foundation grants.

HDR Institute: Institute for Data Driven Dynamical Design

Amount: \$15,540,749

Agency: National Science Foundation

Principal Investigator: Dr. Eric Toberer (Colorado Mines)

Co-Principal Investigators: Dr. Ryan Adams (Princeton), Dr. Alvitta Ottley (WashU), Dr. Steven Lopez (Northeastern), and Dr. Adjii Bouso Dieng (Princeton)

Your Role: Graduate Research Assistant

Contribution: Currently supported by this grant. Investigated visualization literacy of visual language models (VLMs) and compared their capabilities with those of human participants.

CAREER: Context-Aware Visual Analytics Systems: Evolving the One-Size-Fits-All Approach to Design and Evaluation

Amount: \$528,223

Agency: National Science Foundation

Principal Investigator: Dr. Alvitta Ottley

Your Role: Graduate Research Assistant

Contribution: Collaborated on the development of an adaptive visualization evaluation framework. Contributed to research on visualization literacy in both humans and visual language models (AI), and co-led investigations into trust in visualizations. These efforts resulted in several peer-reviewed publications.

Mentorship

Name	Current Position	Year	Context
Hangxiao Zhu	Ph.D. Student @ Texas A&M	2024	Master Thesis
Danni Liu	Ph.D. Student @ UChicago	2023	Undergraduate Research Assistant
Amee Rothman	Data Visualization Manager @ UNHCR	2023	Undergraduate Research Assistant

Academic Service

Organizing Committee

Visualization for Communication (VisComm) Workshop @ IEEE VIS 2025

(Organizing Committee Member and Primary Reviewer)

Visualization in Data Science (VDS) @ IEEE VIS 2024 *(Web Chair and Paper Session Chair)*

Conference Reviewer

ACM Conference on Human Factors in Computing Systems (CHI) 2025

IEEE Visualization Conference (VIS) 2024

Visualization in Data Science (VDS) @ IEEE VIS 2024

IEEE Pacific Visualization Conference (PacificVis) 2023

Visualization for Communication (VisComm) Workshop @ IEEE VIS 2022-2023

Professional & Leadership Experience

Summer 2025	Community Intern Captain , Adobe Research, Seattle, WA.
2024	President , Association of Graduate Engineering Students (AGES), Washington University in St. Louis.
2023-2024	Consultant , The Biotechnology and Life Science Advising (BALSA), St. Louis, MO.
2019-2021	Co-Founder & President , Beloit Investment Club, Beloit College.
2019	Funding Board Director , Beloit Student Government, Beloit College.