Saugat Pandey

✉ p.saugat@wustl.edu
🖥 iamsaugatpandey.github.io
○ Github   in Linkedin   🐦 Twitter

Education

2021–Present	**PhD, Computer Science & Engineering**, *Washington University in St. Louis*, Missouri, USA.
2021–2024	**Master in Computer Science**, *Washington University in St. Louis*, Missouri, USA.
2017–2021	**Bachelor of Science, Computer Science & Mathematics**, *Beloit College*, Wisconsin, USA.

Research Experience

American Institutes for Research

June 2024 – present — ***Doctoral Student Research Intern***.

- Collaborating on ongoing research examining environmental impacts on student performance using PurpleAIR and EPA data; applying clustering algorithms to predict environmental conditions around school districts using historical API data.
- Developed interactive D3.js dashboard visualizing students' NAEP Math engagement; conducted statistical analysis on demographic variables to support data-driven educational policy decisions.

Skills: D3.js, Statistical Analysis, Data Visualization, API Data Extraction, Clustering Algorithms

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

November 2021 – present — ***Graduate Research Assistant***.

- Collaborate in the design and development of visualization tools, focusing on enhancing user data visualization skills and apply statistical analysis to investigate how human perception influences visualizations.
- Provide design guidelines to visualization experts for creating visualizations for effective communication.
- Conduct research on the application of visualizations in real-world scenarios, leveraging cutting-edge AI/ML techniques such as Computer Vision and Multimodal Large Language Models (MLLMs).

Skills: Data Visualization, Psychometrics, Crowdsourcing, AI/ML, Computer Vision, MLLMs, UX Design

The Brent Lab @ Washington University

August 2021 – October 2021 — ***Graduate Research Assistant***.

- Developed an automated image processing tool using Python and OpenCV to generate precise segmentation masks for Cryptococcus neoformans microscopy images, significantly reducing manual annotation time and improving data preparation efficiency for downstream analysis.
- Designed and trained a convolutional neural network (CNN) using PyTorch to analyze Cryptococcus neoformans images, enhancing the lab's capacity for high-throughput fungal phenotype analysis by identifying cellular structures and morphological features.

Skills: Python, OpenCV, Image Processing, PyTorch, CNN, Deep Learning

Publications

In Conference Proceedings

2024	R. Jordan Crouser, Syrine Matoussi, Lan Kung, **Saugat Pandey**, Oen G. McKinley, and Alvitta Ottley. Building and eroding: Exogenous and endogenous factors that influence subjective trust in visualization. IEEE VIS, 2024.
2023	**Saugat Pandey** and Alvitta Ottley. Mini-vlat: A short and effective measure of visualization literacy. volume 42. Computer Graphics Forum, Wiley Online Library 🏆, 2023.
2023	**Saugat Pandey**, Oen G. McKinley, R. Jordan Crouser, and Alvitta Ottley. Do you trust what you see? toward a multidimensional measure of trust in visualization. IEEE VIS, 2023.

Workshop Papers

2024 **Saugat Pandey**, Brittany Boyd, Alvaro Cruz, and Cadelle Hemphill. Temporal patterns in digital assessment: An interactive dashboard for exploring students' time-on-questions. Innovation Demonstration, National Council on Measurement in Education 2025 (In Submission), 2024.

2022 Robert Kasumba, **Saugat Pandey**, Vishesh Patel, Micah Wolfson, and Alvitta Ottley. User engagement with covid-19 visualizations on twitter. Visualization for Communication (VisComm), IEEE VIS, 2022.

Awards & Honors

May 2023 Earned **top 15-20% Departmental Honors** through annual review consensus at Washington University in St. Louis.

March 2023 **Best Paper Award** for "Mini-VLAT: A Short and Effective Measure of Visualization Literacy" at EuroVIS 2023 (Leipzig, Germany).

January 2021 **Conwell-Huffer Endowed Prize in Mathematics** for outstanding senior mathematics or computer science student at Beloit College.

January 2020 **Walter S. Haven Physics/Astronomy Prize** for completing outstanding summer research project at Beloit College, Wisconsin

Presentations

May 2023 Presented paper titled "Mini-VLAT: A Short and Effective Measure of Visualization Literacy" at EuroVIS, 2023

October 2022 Presented paper titled "User engagement with covid-19 visualizatios on twitter" at VisComm workshop (IEEE VIS), 2022

October 2018 Midstates Consortium for Math and Science, Washington University in St. Louis

Teaching Experience

August 2024 - Present **Co-Instructor**, *Washington University in St. Louis*.
Course: Introduction to Visualization

2018 - 2021 **Undergraduate Teaching Assistant**, *Beloit College*.
Courses: Introduction to Object-Oriented Programming, Data Structure & Algorithms, Discrete Structures, Computer Architecture, and Physics 101

Programming skills

Languages Python, JavaScript, R, JAVA, SQL

Libraries D3.js, Plotly.js, tensorflow, keras, PyTorch, scikit-learn, OpenCV

Other Tools MySQL, AWS, Git, Django, Flask, Tableau, Power BI

Service & Activities

July 2022 - Present **Reviewer**, *IEEE VIS 2024 & Visualization in Data Science (VDS) 2024 & VisComm 2022 & 2023 (IEEE VIS) & PacificVIS 2023* .

May 2024 - Present **President**, *Association of Graduate Engineering Students*, Washington University in St. Louis.

May 2023 - January 2024 **Consultant**, *The Biotechnology and Life Science Advising (BALSA) Group*.

2019 - 2021 **Co-Founder & President**, *Beloit Investment Club*, Beloit College.