Saugat Pandey

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Research Interests

I want to explore the intersection of visualization literacy and technology to design accessible and interpretable visualization tools for data insights and understanding human perception in real-world usage.

Research Areas:, *Visualization Literacy, Computer Vision, Visual Analytics, Visualization in Healthcare, Human-Computer Interaction*

Education

Exp. May'26 **Ph.D. Computer Science**, *Washington University in St. Louis*, Missouri
Advisor: Alvitta Ottley

2017-2021 **B.S. Computer Science and Mathematics**, *Beloit College*, Beloit, Wisconsin
Advisor: Eyad Haj Said

Research Experience

Nov'21-Present **Graduate Research Assistant**, *Visual Data Analytics Group*
- Improving user data visualization skills through design and development of visualization tools, utilizing user visualization literacy.
- Conducting research on the usage of visualizations in real-world settings, and employ computer vision techniques to understand how humans perceive visualizations.

Sept-Oct'21 **Graduate Research Assistant**, *The Brent Lab*
- Designed and developed a tool for automatically creating masks of *Cryptococcus neoformans* images using the annotated files.
- Utilized masked images to train the convolutional-based deep model for improved image segmentation performance.

May-July'18 **Summer Science Scholar**, *Beloit College*
- Researched the possibility of generating sub-graphs with 4 or more edges inside aliquot graphs using the sum of divisor function.
- Designed a graphical user interface that allows researchers to generate a list of graphs of desired edges along with filtering capabilities like the range and the size of graphs using JAVA GUI frameworks like AWT and Swing.

Teaching Experience

2018-2021 **Undergraduate Teaching Assistant**, *Beloit College*
- Courses: Introduction to Object-Oriented Programming, Data Structures and Algorithms, Discrete Structures, Computer Architecture
- Organized and led interactive help sessions covering topics such as logic, counting, graphs and trees, logic gates, and combinational circuit designs. Assisted 40-50 students in understanding topics like optics, electric current, work & energy, and lab experiments.

Publications

Workshop Paper

- Robert Kasumba, **Saugat Pandey**, Vishesh Patel, Micah Wolfson, and Alvitta Ottley. User engagement with covid-19 visualizations on twitter. 2022

In-Submission

- **Saugat Pandey** and Alvitta Ottley. Mini-vlat: A short and effective measure of visualization literacy. 2022 [In Submission to EuroVis 2023]

Presentations

Oct'22	**VisComm (Visualization for Communication)**, *IEEE VIS 2022*
Nov'18	**Midstates Consortium for Math and Science**, *Washington University in St. Louis*
Aug'18	**Homecoming Student Days**, *Beloit College*, Beloit, Wisconsin

Awards & Honors

2020	**Walter S. Haven Physics/Astronomy Prize**, *Beloit College*, Beloit, Wisconsin
2017-2021	**Dean's List**, *Beloit College*, Beloit, Wisconsin
2018	**Field Experience Recipient**, *Beloit College*, Beloit, Wisconsin

- Secured a $2000 grant to research cultural diversity in Nepal and disaster management post-earthquake 2015.

Technical Skills

- **Programming Languages:** JavaScript, Python, R, Java, C/C++
- **Tools:** React, D3.js, Git, MySQL, Flask, JupyterLab, SPSS, Tableau
- **Languages:** English (fluent), Hindi (native)
- **Libraries:** NumPy, pandas, Matplotlib, Tensorflow, Keras, scikit-learn,

Service & Activities

May'21-Present — **Treasurer**, *Association of Graduate Engineering Students (AGES)*, Washington University in St. Louis

- Adeptly manage and allocate a substantial budget of $70,000$, contributing to the successful planning and execution of various student activities, including coffee hours, happy hours, and off-campus trips.
- Represent the organization at the graduate student senate and collaborate with other student groups to plan and execute events on and off campus, showcasing exceptional leadership and communication skills.

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

- Assist analysts with stock pitching and conducting BUY, HOLD, and SELL presentations using Discounted Class Flow method, reviewing 10-Ks and 10Qs, and trading multiple analyses.
- Organize events focusing on investment strategies and risk management with faculty advisors and asset managers.