

Liudas Panavas

CONTACT INFORMATION

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EDUCATION

Northeastern University, Boston, MA 2023 - SPRING 2025
PhD Computer Science; Advised by Prof. Cody Dunne

Northeastern University, Boston, MA 2020 - 2023
Masters Computer Science; Advised by Prof. Cody Dunne

University of South Carolina, Columbia, SC 2015 - 2019
B.S. Mechanical Engineer, Minor: Computer Science.

WORK EXPERIENCE

RAND Corporation, Pittsburgh, PA JUNE 2024 - PRESENT
Summer Associate, Adjunct Researcher
Worked on designing system for differentially private release of IRS individual tax records.

- Negotiated system requirements with economists, data engineers, and privacy researchers.
- Generated user workflow, infrastructure schematic, interface design, and written proposal for next iteration of private interactive query system
- Proposed infrastructure changes adopted for next iteration of system design.

Nokia Bell Labs, Cambridge, UK JUNE 2023 - SEPTEMBER 2023
Data Science Research Intern
Worked with the Social Dynamics team exploring the areas of computational social science and responsible AI

- Engineered a full-stack interactive survey deployed on AWS to gauge public opinion on the EU AI Act.
- Conducted quantitative data on 400 survey participants responses for AI policy recommendations.
- Employed prompt engineering and LLMs to classify various AI technologies into risk categories.

RESEARCH EXPERIENCE

Northeastern University, Boston, MA AUGUST 2020 - PRESENT
Graduate Researcher
Conducting studies and creating visual tools to help make differential privacy usable

- Creating web-based tool to visually explain DP privacy parameter's impact on accuracy ([Paper](#)).
- Conducted interviews with 18 DP practitioners to identify real world deployment challenges ([Paper](#)).
- Evaluated and benchmarked visual utility of 5 popular differential privacy algorithms ([Paper](#)).

Deploying HCAI visual interface to compare object detection model outputs

- Wrote algorithms to parse object detection model outputs into set visualizations.
- Deployed jupyter lab extension as a python package to explore bounding box detections ([Software](#))

Conducted foundational research of data visualization perception

- Conducted a quantitative user study on children's graphical perception ([Paper](#)).
- Ran study to compare pop out effects in a VR environment vs a desktop environment.

Columbia University, New York City, NY JANUARY 2024 - JUNE 2024
Visiting Scholar, Advised by Rachel Cummings

- Developed visualization system to help educate and simulate differential privacy deployments.
- Conducted interview study to investigate challenges differential privacy practitioner face.

Harvard Privacy Tools Project, Cambridge, MA JUNE 2023 - SEPTEMBER 2023
OpenDP Fellow
OpenDP is a community working towards building tools to enable sharing of sensitive data through differential privacy.

- Worked on different interfaces to help explain differential privacy concepts.

SOFTWARE SKILLS	Web Development: React, Node.js, Express, MongoDB, Amazon Web Services (AWS), Figma Data Visualization: D3, Plotly, Matplotlib, Tableau Languages & Tools: Python, Javascript, GIT, Jupyter Widgets, Streamlit, OpenDP Research: Differential Privacy, Useable Privacy, Computer Vision, Object Detection, Explainable AI, Human Computer Interaction, Quantitative Analysis, Qualitative Analysis, Interview Studies	
LEADERSHIP	Northeastern Graduate Student Social Committee 2022 - 2023 President <i>The social committee was started to help foster community amongst Northeastern graduate students.</i> <ul style="list-style-type: none"> Managed \$15,000 dollars to put on weekly lunches alongside monthly outings Organized end of semester dinner for over 90 graduate students 	
	Northeastern PhD Curriculum Committee 2020 - 2021 Student Representative <ul style="list-style-type: none"> Communicated with faculty to ensure professors updated course curriculum to requirements. 	
AWARDS AND MEMBERSHIPS	McNair Scholar (highest academic honor at UofSC) 2015 - 2019 Dean's List 2015 - 2019 USC SURF grant recipient 2016, 2017, 2018 NSF I-Corps Grant recipient 2018 E. Wayne Kim SME undergraduate Scholarship 2017	
MENTORSHIP	Hari Bhimaraju , Columbia University 2023-2024 Wynee Pintado , Columbia University 2023-2024 Tejas Sathyamurthi , Northeastern University 2021	
PUBLICATIONS	<ol style="list-style-type: none"> Panavas, L., Rho, S., Bhimaraju, H., Pintado, W., Wright, R. N., & Cummings, R. (2024). <i>A Visualization Tool to Help Technical Practitioners of Differential Privacy</i>. Journal of Privacy and Confidentiality, <u>Paper</u> Panavas, L., Sarker, A., Di Bartolomeo, S., Sarvghad, A., Dunne, C., & Mahyar, N. (2024). <i>Illuminating the Landscape of Differential Privacy: An Interview Study on the Use of Visualization in Real-World Deployments</i>. IEEE Transactions on Visualization and Computer Graphics, <u>Paper</u> Panavas, L., Crnovrsanin, T., Adams, J. L., Ullman, J., Sargavad, A., Tory, M., & Dunne, C. (2023). <i>Investigating the Visual Utility of Differentially Private Scatterplots</i>. TVCG, <u>Paper</u>. Panavas, L., Worth, A. E., Crnovrsanin, T., Sathyamurthi, T., Cordes, S., Borkin, M. A., & Dunne, C. (2022, April). <i>Juvenile graphical perception: A comparison between children and adults</i>. CHI 22, <u>Paper</u> 	