Yijun Liu

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Research Interest

Human-computer interaction; human-AI collaboration; AI writing support; visualization

Education

2024 - Present	**University of Illinois Urbana-Champaign**, Urbana, IL Ph.D. Student in Computer Science Advisor: Tal August
2020 - 2024	**Emory University**, Atlanta, GA B.S. in Computer Science (honors); B.S. in Quantitative Sciences in Sociology Honor Thesis Advisor: Chinmay Kulkarni

Selected Publication

[1]	**From Crafting Text to Crafting Thought: Grounding Intelligent Writing Support to Writing Center Pedagogy** Yijun Liu, John Gallagher, Sarah Sterman, and Tal August **CHI 2026** ***(conditionally accepted)*** *Preliminary Version: In2Writing Workshop at NAACL 2025 *Best Paper Award**
[2]	**Needling Through the Threads: A Visualization Tool for Navigating Threaded Online Discussions** Yijun Liu, Frederick Choi, and Eshwar Chandrasekharan **CHI 2026** ***(conditionally accepted)***
[3]	**Unmasking Dunning-Kruger Effect in Visual Reasoning and Visual Data Analysis** Mengyu Chen, Yijun Liu, and Emily Wall ***2024 IEEE Visualization Conference (VIS'24)***
[4]	**Predicting Atrial Fibrillation Ablation Outcomes: A Machine Learning Approach Leveraging a Large Administrative Claims Database** Yijun Liu, Mustapha Oloko-Oba, Kathryn Wood, Michael S. Lloyd, Joyce C. Ho, Vicki Stover Hertzberg ***JMIR Cardio***

Award & Recognition

2025	In2Writing Best Paper Award
2024	Emory Outstanding CS Student of the Year Phi Beta Kappa
2023	Google CS Research Mentorship Recipient
2022	SIGKDD Student Travel Award ($800) CRA-WP Student Travel Award ($2,000) Emory Quantitative Science Distinction Award ASA DataFest @ Emory Best Insight Award
2021	ASA Fall Data Challenge Best Undergraduate Overall Award

Research Experience

Designing Non-Directive AI Writing Feedback *[1]*
Advisor: Tal August
- Led design and development of *Writor*, an AI writing-feedback tool informed by tutor interviews.
- Conducted mixed-method expert evaluation (survey + interview) to assess pedagogical alignment and feedback quality, revealing strong preference from AI-skeptical educators for non-directive feedback.

Visualizing Threaded Activity in Online Discussion for Moderators *[2]*
Advisor: Eshwar Chandrasekharan
- Led design and development of *Needle*, an interactive visualization system using Next.js/D3.js to summarize Reddit threads by activity, toxicity, and engagement.
- Conducted qualitative user study with 10 Reddit moderators (interview) to assess usability and impact of *Needle* on moderation workflow.

Enhancing Collaborative Web App Inclusivity via LLMs
Advisor: Chinmay Kulkarni
- Designed an iterative process for code generation, validation, and merging, enabling LLM to deliver complete and valid code solutions.
- Generated functioning React pages using existing code enhanced with inclusivity features.

Predicting Atrial Fibrillation Ablation Success with ML *[4]*
Advisors: Vicki Hertzberg & Joyce Ho
- Generated refined datasets from 100GB+ healthcare data in SAS, applying time-series transformation and normalization to gather patients' medical histories.
- Led development of ML models, including logistic regression, SVMs, decision trees, random forests, GBDTs, and neural networks; employed k-fold, Monte Carlo cross-validation, grid search, and various feature selection techniques (filter, wrapper & embedded) alongside with PCA.
- Advanced performance by developing specialized subgroup models surpassing existing benchmarks.

Teaching Experience

2025 FA	**CS 465: User Interface Design,** Teaching Assistant, UIUC
2022 FA	**CS 253: Data Structure and Algorithms**, Teaching Assistant, Emory
2021 FA & SP	**Emory Oxford Writing Center**, Lead Writing Consultant

Academic Service

Web Developer

2024	AAAI Workshop: LLMs4Bio
2022	SIGKDD

Student Volunteer

2022	SIGKDD

Reviewer

2025	CHI 2026 (Special Recognition)

Skill

Programming Languages	**Front-End** (HTML, CSS/S, TypeScript, React.js), **Back-End** (Flask, Node.js), **Database** (MySQL, PostgreSQL, MongoDB), **Cloud Services** (AWS, GCP, Heroku), **Machine Learning** (scikit-learn, PyTorch, TensorFlow, Keras), **Statistical Analysis** (NumPy, Pandas, SciPy, R, SAS), **Visualization** (Matplotlib, D3.js), and **Prompt Engineering**
Design	Figma, Adobe Photoshop/InDesign/Illustrator
Research Methods	Interviews, Survey Design, Usability Testing, Experimental Design, Hypothesis Testing, Thematic Analysis