

# Yijun Liu

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## Research Interest

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

## Education

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

## Selected Publication

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

## Award & Recognition

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

## Research Experience

### Designing Non-Directive AI Writing Feedback

*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

*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

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

## Academic Service

### Web Developer

2024	<u><a href="#">AAAI Workshop: LLMs4Bio</a></u>
2022	<u><a href="#">SIGKDD</a></u>

### Student Volunteer

2022	SIGKDD
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## Skill

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