

# Zhilin Zhang

email: [zhilin.zhang@cs.ox.ac.uk](mailto:zhilin.zhang@cs.ox.ac.uk)

website: <https://www.zhilinzhang.com>

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## Educational Background

### University of Oxford, UK

2022 - 2026

Doctor of Philosophy in Computer Science

Supervisors: Sir Nigel Shadbolt, Sir Tim Berners-Lee, Jun Zhao, Max Van Kleek

Research Interests:

Human-Computer Interaction, Artificial Intelligence, Social Computing, Decentralization

### University of Illinois at Urbana-Champaign (UIUC), USA

2016 - 2021

Master of Science in Computer Science (with thesis)

Advisors: Lawrence Angrave and Karrie Karahalios

Bachelor of Science in Computer Science (with thesis)

Award: Dean's List

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## Project Highlights

Ethical Web and Data Architectures    Oxford    Supervisors: Sir Nigel Shadbolt and Sir Tim Berners-Lee

- Ethical Web and Data Infrastructure in the Age of AI (EWADA) is an ambitious programme funded by the Oxford Martin School. Its mission is to reform the concentration of power on the World Wide Web by developing and deploying new forms of technical and legal infrastructure
- Applied co-design and empirical research methods to investigate research topics including decentralized social media and data autonomy for marginalized and vulnerable groups
- **Published 3 papers at CSCW [11] and CHI [9, 10], and won the Honorable Mention Award**

ClassTranscribe Team    UIUC    Supervisor: Lawrence Angrave    05/2019 - 08/2021

- ClassTranscribe is a Microsoft sponsored online learning platform (ReactJS, ASP.NET Core)
- Studied students' attitudes, behaviors, and learning outcomes from using ClassTranscribe
- Used Python (Pandas, NumPy and SciPy), statistical techniques (e.g., Mann-Whitney tests, chi-square tests), data mining techniques (e.g., k-means clustering), and qualitative analysis techniques (e.g., grounded-theory approach) to analyze behavioral data of 1,894 users totaling more than 5 million interactions
- **Published 3 papers at SIGCSE [1] and ASEE [2, 6], and won the Honorable Mention Award**

Social Spaces Group    UIUC    Supervisor: Karrie Karahalios    08/2020 - 08/2021

- Investigated students' folk theories, interaction strategies, perceived accuracy, satisfaction, and fairness towards an NLP-based grading system
- Applied a grounded-theory approach to code the qualitative data from a 22-participant interview study
- **Published 2 papers at CHI [3] and ICER [8]**

Strategic Instructional Innovations    UIUC    Supervisor: Hongye Liu    08/2020 - 08/2021

- Studied how to improve class accessibility for all learners, especially females and students with disabilities
- Conducted large-scale surveys and interviews across 49 engineering courses at UIUC
- **Published 1 paper at ASEE [5], and won the 3<sup>rd</sup> Best Paper Award**

Data and Information Systems Lab    UIUC    Supervisor: ChengXiang Zhai    08/2020 - 08/2021

- Experimented learnersourcing for improving captions in video-based online learning



# Publications

(\* = Equal Contribution)

## RESEARCH PAPERS

- [11] **Zhilin Zhang**, Jun Zhao, Ge Wang, Samantha-Kaye Johnston, George Chalhoub, Tala Ross, Diyi Liu, Claudine Tinsman, Rui Zhao, Max Van Kleek, and Nigel Shadbolt. 2024. Trouble in Paradise? Understanding Mastodon Admin's Motivations, Experiences, and Challenges Running Decentralised Social Media. *Proc. ACM Hum.-Comput. Interact.* 8, CSCW2. (**CSCW 2024**)
- [10] Ge Wang, Jun Zhao, Samantha-Kaye Johnston, **Zhilin Zhang**, Max Van Kleek, and Nigel Shadbolt. 2024. CHAITok: A Proof-of-Concept System Supporting Children's Sense of Data Autonomy on Social Media. *In Proceedings of the CHI Conference on Human Factors in Computing Systems.* (**CHI 2024**)  
🏆 Best Paper Honorable Mention Award
- [9] Ge Wang, Jun Zhao, Konrad Kollnig, Adrien Zier, Blanche Duron, **Zhilin Zhang**, Max Van Kleek, and Nigel Shadbolt. 2024. KOALA Hero Toolkit: A New Approach to Inform Families of Mobile Datafication Risks. *In Proceedings of the CHI Conference on Human Factors in Computing Systems.* (**CHI 2024**)
- [8] Tiffany Wenting Li\*, Silas Hsu\*, Max Fowler, **Zhilin Zhang**, Craig Zilles, Karrie Karahalios. (2023, August). Am I Wrong, or Is the Autograder Wrong? Effects of AI Grading Mistakes on Learning. *In Proceedings of the 2023 ACM Conference on International Computing Education Research.* (**ICER 2023**)
- [7] Bhavya\*, Si Chen\*, **Zhilin Zhang\***, Tiffany Wenting Li, ChengXiang Zhai, Lawrence Angrave, Yun Huang. Advancing Learnersourced Caption Editing for Video-Based STEM Education. (**Educational Technology Research and Development Journal, 2022**)
- [6] **Zhilin Zhang\***, Bhavya\*, Lawrence Angrave, Ruihua Sui, Rob Kooper, Chirantan Mahipal, Yun Huang. (2021, July). How Students Search Video Captions to Learn: An Analysis of Search Terms and Behavioral Timing Data. *In Proceedings of the 2021 American Society for Engineering Education Annual Conference & Exposition.* (**ASEE 2021**)
- [5] Jenny Amos\*, **Zhilin Zhang\***, Lawrence Angrave\*, Hongye Liu\*, Yiyin Shen. (2021, July). A UDL-Based Large-Scale Study on the Needs of Students with Disabilities in Engineering Courses. *In Proceedings of the 2021 American Society for Engineering Education Annual Conference & Exposition.* (**ASEE 2021**)  
🏆 3rd Best Paper Award & 2nd Best Diversity, Equity, and Inclusion Paper Award
- [4] Zhuohao Zhang, **Zhilin Zhang**, Haolin Yuan, Natã Barbosa, Sauvik Das, Yang Wang. (2021, August). WebAlly: Making Visual Task-based CAPTCHAs Transferable for People with Visual Impairments. *In Proceedings of the Symposium on Usable Privacy and Security* (pp. 281-298). (**SOUPS 2021**)
- [3] Silas Hsu\*, Tiffany Wenting Li\*, **Zhilin Zhang**, Max Fowler, Craig Zilles, Karrie Karahalios. (2021, May). Attitudes Surrounding an Imperfect AI Autograder. *In Proceedings of the ACM Conference on Human Factors in Computing Systems* (pp. 1-15). (**CHI 2021**)
- [2] Lawrence Angrave, Karin Jensen, **Zhilin Zhang**, Chirantan Mahipal, David Mussulman, Christopher Schmitz, Robert Baird, Hongye Liu, Ruihua Sui, Maryalice Wu, and Rob Kooper. (2020, June). Improving Student Accessibility, Equity, Course Performance, and Lab Skills: How Introduction of ClassTranscribe is Changing Engineering Education. *In Proceedings of the 2020 American Society for Engineering Education Annual Conference & Exposition.* (**ASEE 2020**)  
🏆 Best Diversity, Equity & Inclusion Paper Honorable Mention
- [1] Lawrence Angrave, **Zhilin Zhang**, Genevieve Henricks-Lepp, and Chirantan Mahipal. (2020, February). Who Benefits? Positive Learner Outcomes from Behavioral Analytics of Online Lecture Video Viewing using ClassTranscribe. *In Proceedings of the ACM Symposium on Computer Science Education* (pp. 1193-1199). (**SIGCSE 2020**)

## THESES

- [T2] **Zhilin Zhang**. Attitudes, Behaviors, and Learning Outcomes from Using ClassTranscribe, a UDL-Featured Video-Based Online Learning Platform with Learnersourced Text-Searchable Captions. (Master's Thesis, University of Illinois at Urbana-Champaign, 2021)
- [T1] **Zhilin Zhang**. What Benefits? Exploring the Influences of Student Behaviors in Video-Based Online Learning. (Undergraduate Senior Thesis, University of Illinois at Urbana-Champaign, 2020)

## WORKSHOPS, PANELS, POSTERS, TALKS

- [O5] Silas Hsu, **Zhilin Zhang**, and Karrie Karahalios. Tired of Bad Recommendations? A Design to Better Steer Your Feeds Inspired by Version Control. In *2021 Human Computer Interaction Consortium (HCIC) Virtual workshop*.
- [O4] Tiffany Wenting Li\*, Silas Hsu\*, **Zhilin Zhang**, Craig Zilles, and Karrie Karahalios. Exploring Students' Control over Imperfect AI Autograders. In *2021 Human Computer Interaction Consortium (HCIC) Virtual workshop*.
- [O3] Kendra Walther, Hongye Liu, Lawrence Angrave, Erin Carrier, **Zhilin Zhang**, Harsh Deep. Understanding the Needs of Students with Disabilities based on Universal Design for Learning Principles. In *2021 CMD-IT/ACM Richard Tapia Celebration of Diversity in Computing Conference*.
- [O2] Hongye Liu, Jennifer Amos, Kusum Vanwani, **Zhilin Zhang**, Lawrence Angrave. Qualitative analysis of college students' perception of multiple representations and modalities in courses. In *2021 ASEE Illinois-Indiana Section Conference Proceedings*.
- [O1] **Zhilin Zhang**, Lawrence Angrave. 2020. ClassTranscribe: Addressing the COVID Challenge and Promoting Better Equity in Education. In *Computing Research Association (CRA) Virtual Conference 2020*.