

# tongyu zhou

PHD STUDENT · HUMAN-COMPUTER INTERACTION

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## Education

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### Brown University

Providence, RI

PH.D. IN COMPUTER SCIENCE

2020 - present

Advisor: Jeff Huang

### Williams College

Williamstown, MA

B.A. IN COMPUTER SCIENCE AND STATISTICS

2016 - 2020

Advisor: Iris Howley

Thesis: "Confusion Detection on Annotator Affect"

### Aquincum Institute of Technology

Budapest, Hungary

COMPUTER SCIENCE STUDY ABROAD PROGRAM

2018 - 2019

## Research Experience

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### Brown University – Research Assistant

Providence, RI

ADVISOR: JEFF HUANG

2020-present

- Working on systems spanning both the web and AR domains to support individual, collective, and collaborative creativity by encouraging users to derive inspiration from their peers or by example.

### Research in Industrial Projects for Students (REU at IPAM, UCLA) – Student Researcher

Los Angeles, CA

MENTORS: VICTOR LIN, LEAH RUCKLE, KAREN WOOD, MINH PHAM

2019

- Designed genetic algorithms to predict Walker constellation parameters that minimized 98% global dilution of precision
- Technical report: "Combining Genetic Algorithms and Machine Learning (CgALM) for Modeling Complex Systems"

### Williams College Department of Computer Science – Research Assistant

Williamstown, MA

ADVISOR: IRIS HOWLEY

2018

- Created interactive explainables to teach Bayesian Knowledge Tracing to various levels of understanding to spread algorithmic transparency and interpretability, work was instrumental in NSF Grant #1849984

### Gavril Pasternak Lab, Memorial Sloan Kettering Cancer Center – Bioinformatics Intern

New York, NY

MENTOR: TAKESHI IRIE

2017

- Constructed data models and interactive cladograms to visualize relationships between G-protein coupled receptors splice variants and alternative promoters, signal peptides, and exon abundance

## Publications

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\*equal contribution

### CONFERENCES

Sarah Bawabe\*, Laura Wilson\*, **Tongyu Zhou\***, Ezra Marks, and Jeff Huang. (2021). The UX Factor: Using Comparative Peer Review to Evaluate Designs through User Preferences. In Proceedings of the 2021 Conference on Computer-supported Cooperative Work (CSCW '21). ACM, to appear.

Jing Qian\*, **Tongyu Zhou\***, Meredith Young-Ng\*, Jiaju Ma, Angel Cheung, Xiangyu Li, Ian Gonsher, and Jeff Huang. (2021). Portalware: Exploring Free-Hand AR Drawing with a Dual-Display Smartphone-Wearable Paradigm. In Designing Interactive Systems Conference 2021 (DIS '21). ACM, 205–219.

Jacob Chang, Rachel Duquette, Katherine Thai, **Tongyu Zhou**, Minh Pham, Victor Lin, and Karen Wood. (2020). Combining Genetic Algorithms and Machine Learning for Exploring the Navigation Satellite Constellation Design Tradespace. In

Proceedings of the 33rd International Technical Meeting of the Satellite Division of The Institute of Navigation (ION GNSS+ 2020). 407–413.

**Tongyu Zhou\***, Haoyu Sheng\*, and Iris Howley. (2020). Assessing Post-hoc Explainability of the BKT Algorithm. In Proceedings of the AAAI/ACM Conference on AI, Ethics, and Society (AIES '20). ACM, 407–413.

## WORKSHOPS & EXTENDED ABSTRACTS

Young Cho, Grace Mazzarella, Kelvin Tejada, **Tongyu Zhou**, and Iris Howley. (2020). What is Bayesian Knowledge Tracing? Poster presentation at the IEEE VIS Workshop on Visualization for AI Explainability.

## Awards, Fellowships, & Grants

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- 2020 **Outstanding Undergraduate Researcher Awards Honorable Mention**, CRA
- 2019 **Computer Science Class of 1960's Scholars**, Williams College
- 2018 **Summer Science Research Fellowship**, Williams College
- 2017 **Murphy Family Scholarship**, Williams College

## Teaching Experience

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- 2019-2020 **Algorithm Design and Analysis**, Teaching Assistant for Shikha Singh, Williams College
- Fall 2018 **Algorithm Design and Analysis**, Teaching Assistant for William Lenhart, Williams College
- Fall 2017 **Data Structures and Advanced Programming**, Teaching Assistant for Andrea Danyluk & Iris Howley, Williams College

## Mentoring

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- Spring 2021 **Sarah Bawabe, Laura Wilson**, Brown HCI Lab
- Spring 2021 **Aurora Vo**, ExploreCSR program
- Fall 2020 **Ezra Marks**, Brown HCI Lab

## Other Extracurricular & Work Activities

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### SERVICE AND OUTREACH

#### CollegeVine

Cambridge, MA

#### APPLICATIONS CONSULTANT

2017-2019

- Conducted one-on-one advising for college applicants, edited applications for coding camps, and worked with clients through online CS courses

#### Williams College Chinese-American Student Organization

Williamstown, MA

#### SOCIAL CHAIR

2017-2018

- Responsible for intra-organization relations through instating programs and planning events that encourage building friendships and community among current members

#### CYI Chinatown Literacy Project

New York, NY

#### LANGUAGE PARTNER

2013-2016

- Taught non-native speakers the English language at a program aimed to spread literacy through personalized instruction and held workshops on prevalent community and civic issues

## OTHER SKILLS

Art & Design: [portfolio]