Xiaoyi Tian

412-584-2786 | tianx@ufl.edu | linkedin.com/in/xiaoyi-tian/ | www.txiaoyi.com

EDUCATION

Ph.D. in Human-Centered Computing 2020 - present
University of Florida Gainesville, FL

M.S. in Information Science 2018 - 2020
University of Pittsburgh Pittsburgh, PA

B.Mgmt. in Management Science 2014 - 2018
Anhui University Hefei, China

AWARDS AND HONORS

Gartner Group Graduate Fellowship, University of Florida 2022
Outstanding Undergraduate Thesis (Top 1% in the Class), Anhui University 2018
Academic Excellence Scholarship, Anhui University 2015 & 2016 & 2017
'Merit Student', Anhui University 2015 & 2017

PUBLICATIONS

Journal Articles

J2 **Let's Talk It Out: A Chatbot for Effective Study Habit Behavioral Change**
Xiaoyi Tian, Zak Risha, Ishrat Ahmed, Arun Balajiee Lekshmi Narayanan, Jacob Biehl.
Proceedings of the ACM on Human-Computer Interaction. 5, CSCW1. April. 2021.

J1 **Online Educational Information Quality Modeling and Perceived Difference Comparison**
Xiaoyi Tian, Jing Li, Qin Yu.
In *Journal of Hefei Normal University.* 2016, 34(5).

Conference Papers

C4 **Applying Cognitive Load Theory to Examine STEM Undergraduate Students' Experiences in An Adaptive Learning Environment: A Mixed-Methods Study**
Dolly Bounajim, Arif Rachmatullah, Madeline Hinckle, Bradford Mott, James Lester, Andy Smith, Andrew Emerson, Fahmid Morshed Fahid, **Xiaoyi Tian**, Joseph B Wiggins, Kristy Elizabeth Boyer, Eric Wiebe.
Proceedings of the Human Factors and Ergonomics Society Annual Meeting. October. 2021.

C3 **Modeling Frustration Trajectories and Problem-Solving Behaviors in Adaptive Learning Environments for Introductory Computer Science**
Xiaoyi Tian, Joseph B. Wiggins, Fahmid Morshed Fahid, Andrew Emerson, Dolly Bounajim, Andy Smith, Kristy Elizabeth Boyer, Eric Wiebe, Bradford Mott, James Lester.
Proceedings of International Conference on Artificial Intelligence in Education (AIED). July. 2021.

C2 **Progression Trajectory-Based Student Modeling for Novice Block-Based Programming**
Fahmid Morshed Fahid, **Xiaoyi Tian**, Andrew Emerson, Joseph B. Wiggins, Dolly Bounajim, Andy Smith, Eric Wiebe, Bradford Mott, Kristy Elizabeth Boyer, James Lester.
Proceedings of the 29th ACM Conference on User Modeling, Adaptation and Personalization (UMAP). July. 2021.

C1 **Understanding Rapport over Multiple Sessions with a Social, Teachable Robot**
Xiaoyi Tian, Nichola Lubold, Leah Friedman, Erin Walker.
Proceedings of International Conference on Artificial Intelligence in Education (AIED). July. 2020.

Workshop Papers

W1 **Dominance as an Indicator of Rapport and Learning in Human-Agent Communication**
Amanda Buddemeyer, <u>**Xiaoyi Tian**</u>, Erin Walker.
Student Research Workshop in *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (ACL).* July. 2020.

SERVICES

Reviewer of ACM Conference on Computer-Supported Cooperative Work (CSCW) 2020
Reviewer of International Conference on Educational Data Mining (EDM) 2022

EXPERIENCE

Graduate Research Assistant | Advisor: Kristy Boyer   08/2020 - present
LearnDialogue Lab, University of Florida   Gainesville, FL
- Designed and developed interface that augments Dialogflow with rich visual features, AI conceptual scaffolding and dual input modalities (text and speech) for middle school students creating conversational apps
- Modeled linguistic alignment and its relationship with satisfaction outcome in dialogues of middle school students collaborative programming
- Understood affective states and problem-solving behaviors in adaptive programming environments

Research Intern | Supervisors: Michael Madaio and Amy Ogan   10/2019 - 07/2020
Human-Computer Interaction Institute, Carnegie Mellon University   Pittsburgh, PA
- Automated data collection for a child literacy system used by 500+ participants in Côte d'Ivoire over 8 months
- Visualized user phonological awareness curriculum progression of 8 units and 1,000+ weekly logs of learning actions

Research Assistant | Supervisor: Erin Walker   04/2019 - 05/2020
Facet Lab, University of Pittsburgh   Pittsburgh, PA
- Conducted qualitative research on multi-sessions rapport management of middle school learners with a social robot
- Utilized Independent Component Analysis (ICA) to model linguistic rapport components extracted from human coding and automated LIWC measurements

PROJECTS

Camp DIALOGS | RA project at UF   08/2021 - Present
Summer camps for middle school students on AI learning and co-creation of spoken conversational apps
- Facilitated in-person camp activities and students' co-creation of conversational apps using DialogFlow
- Created taxonomy of dominance and off-task behaviors for middle school students co-creation and coded student collaboration patterns and camp counselor facilitation strategies using DeDoose software
- Designed, developed and iteratively refined the interface that augments DialogFlow for middle school learners

Prime: Student Modeling in Introductory Programming | RA project at UF   08/2020 - Present
Research on novice programmers' problem-solving behaviors and their code progressions in an adaptive block-based programming environment
- Embedded code snapshots by converting Python code to Abstract Syntax Tree (AST) then to vectors using AST2vec algorithm
- Clustered student progression trajectory based on distances between series of student code embeddings
- Modeled the correlation between student frustration, problem-solving behaviors as well as incoming characteristics
- Evaluated multi-level hint effectiveness and student coding states using logs of interactions and 295,445 code snapshots from 1000+ students

Linguistic Alignment in Collaborative Learning Dialogues | Course project (lead) at UF   01/2021 - present
Research on the role of linguistic alignment in middle school students collaborative problem solving dialogues
- Parsed the syntactic structure and extracted lexical types for both task-relevant and non-task lexical types
- Calculated linguistic alignment on both syntax level and lexicon level for each dialogue exchange
- Performed Beyasian mixed-effect model on linguistic alignment and students' satisfaction toward their partner

INVITED TALKS AND SEMINARS

Guest speaker of undergraduate HCI course, University of Florida   03/2021
Let's talk it out: A chabot for effective study behavioral change

Last update: 4/9/2022