TAO WANG

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RESEARCH INTEREST

Human Computer Interaction, Accessibility, Visualization

EDUCATION

PhD in ICS (focused in HCI), University of California, Irvine   09/2011 – 06/2018

Department of Informatics, School of Information and Computer Science
Dissertation: Exploring the Potential of Using Spatial Audio Feedback to Improve Web Accessibility for Screen Reader Users
Committee: Professor David Redmiles (chair), Professor Gary Olson, Professor Virginia Richards

BSc (Hons) in Computer Science, University of Auckland, New Zealand   02/2007 – 11/2008

Dissertation Supervisor: Professor Beryl Plimmer
Dissertation: SmartList: Computing with Handwritten Input

BSc in Computer Science, University of Auckland, New Zealand   07/2002 – 06/2005

EMPLOYMENT

User Experience Researcher, Amazon, Seattle, Washington   1/2022 – Present

- Designed generative and evaluative user studies to help bring new e-commerce services to market in complex product environment; conducted in-person/remote user studies to gather user feedback on product concepts and design artifacts

- Performed data analysis on qualitative and quantitative user study data; compiled research reports that connect qualitative and quantitative insights to construct reliable understanding of user attitudes and behaviors

- Presented user study findings to key stakeholders in cross-functional product teams; led product roadmap discussions; advised key stakeholders to answer strategic questions and make informed product decisions

User Experience Researcher, SAP Innovation Center, Newport Beach, CA   11/2018 – 1/2022

- Conducted generative research to assess user attitudes and behaviors on emerging technologies in different domains (e.g., healthcare, enterprise)

- Ran in-person/remote evaluative user studies to provide insights for project roadmap planning and product design

- Led research exploration process by building rapport with other teams and organizing co-innovation activities; published research paper internally and externally
- Promoted UX internally at regular workshops and externally at local professional network events
- Managed and mentored software engineer students/interns to develop proof-of-concept prototypes using cutting edge technologies

Graduate Researcher, University of California, Irvine   09/2011 – 06/2018

- Conducted research projects independently from start to finish: surveyed literature, identified research questions, defined scopes, designed protocols, obtained IRB approvals, recruited participants, executed research projects
- Implemented prototypes and data collection instruments; gathered and analyzed qualitative and quantitative data
- Authored research papers; presented posters at local outlets and major conferences (ASSETS, UIST)
- Collaborated in 4 projects with multidisciplinary teams (3-5 researchers): research planning, prototyping

Teaching Assistant, University of California, Irvine   09/2011 – 06/2018

- Created course materials (slides, quizzes, assignments) on UI/UX/HCI topics according to learning objectives
- Delivered lectures and organized discussions for classes ranged from 40 to 100+ students
- Managed student project teams (4-7 students per team, 10+ teams a time): tracked progress, resolved conflicts

Assistive Technology Trainer Volunteer, Braille Institute Anaheim Center, CA 04/2013 – 07/2017

- Trained students with visual impairments to use assistive technologies
- Assisted curriculum planning; produced teaching materials

Research Intern, FXPAL, Palo Alto, California   Summer 2014

- Surveyed literature and ran in-person interviews (10+ users) to develop original research topic
- Evaluated proof-of-concept prototype using online surveys via Amazon Mechanical Turk (300 responses)
- Performed inferential statistical analysis to measure user interaction; wrote research finding reports

Research Intern, UCSD iDASH, San Diego, California   Summer 2012

- Implemented research prototypes
- Conducted interviews with stakeholders; gathered and developed requirements

Software Consultant, Datacom, Auckland, New Zealand   03/2008 – 07/2011

- Developed web applications (e.g., hospital service scheduling, drug trial reviews) using ASP.NET, SharePoint
- Managed database (MS SQL Server), e.g., scripting, performance tuning, maintenance

- Assisted project managers with requirement gathering and estimates; worked onsite independently

Software Consultant, Hyro, Auckland, New Zealand   03/2007 – 02/2008

- Developed web applications using ASP.NET, Kentico CMS

- Managed database (MS SQL Server), e.g., scripting, performance tuning, maintenance

- Gathered requirements from clients; coordinated with all stakeholders to ensure project success

Software Developer, Intergen, Auckland, New Zealand   09/2005 – 03/2007

- Developed web applications using Visual Studio products, Episerver CMS

- Managed database (MS SQL Server), e.g., scripting, performance tuning, maintenance

Lab Tutor/Grader, the University of Auckland, New Zealand   01/2004 – 06/2005

- Provided learning assistances to Computer Science undergraduate students

- Graded Computer Science undergraduate course assignments

TEACHING EXPERIENCE

Served as Teaching Assistant for the following classes at University of California, Irvine:

ICS 10: How Computers Work	Fall 2011
INF 117: Project in Software System Design	Winter 2012
INF 123: Software Architecture	Spring 2012
INF 45: Patterns in Software Construction	Spring 2012
INF 131: Human Computer Interaction	Summer 2013
INF 141: Information Retrieval	Winter 2014
ICS 62: Game Technologies and Interactive Media	Spring 2014
INF 191: Senior Design Project	Fall 2014
INF 191: Senior Design Project	Winter 2015
ICS 62: Game Technologies and Interactive Media	Spring 2015
INF 153: Computer Supported Cooperative Work	Spring 2016
INF 148: Project in Ubiquitous Computing	Spring 2016
INF 191: Senior Design Project	Fall 2016
INF 191: Senior Design Project	Winter 2017
INF 143: Information Visualization	Spring 2017
INF 133: User Interaction Software	Fall 2017
INF 134: Project in User Interaction Software	Winter 2017
INF 191: Senior Design Project	Spring 2018

PUBLICATIONS

Xinru Page, Andrew Capener, Spring Cullen, Tao Wang, Monica Garfield, and Pamela J. Wisniewski. 2022. Perceiving Affordances Differently: The Unintended Consequences When Young Autistic Adults Engage with Social Media. In CHI Conference on Human Factors in Computing Systems (CHI '22). Association for Computing Machinery, New York, NY, USA, Article 144, 1–21. https://doi.org/10.1145/3491102.3517596

Wang, T., Keck, M., & Vosough, Z. (2021). Discussion Flows: An Interactive Visualization for Analyzing Engagement in Multi-Party Meetings. In M. Agus, C. Garth, & A. Kerren (Eds.), *EuroVis 2021—Short Papers*. The Eurographics Association. https://doi.org/10.2312/evs.20211060
Presentation: https://youtu.be/SuNWYpaDKac?t=4851

Wang, Tao, Monica Garfield, Pamela Wisniewski, and Xinru Page. 2020. "Benefits and Challenges for Social Media Users on the Autism Spectrum." In Conference Companion Publication of the 2020 on Computer Supported Cooperative Work and Social Computing, 419–24. CSCW '20 Companion. New York, NY, USA: Association for Computing Machinery. https://doi.org/10.1145/3406865.3418322.

Wang, Tao. 2018. "Exploring the Potential of Using Spatial Audio to Improve Web Accessibility for Screen Reader Users." UC Irvine. https://escholarship.org/uc/item/9w86q269.

Wang, Tao, and David Redmiles. 2017. "Auditory Overview of Web Pages for Screen Reader Users." In Adjunct Publication of the 30th Annual ACM Symposium on User Interface Software and Technology, 193–95. UIST '17. New York, NY, USA: ACM. https://doi.org/10.1145/3131785.3131837.

Kobsa, A., Y. Chen, and T. Wang. 2012. "Discovering Personal Behavioral Rules in a Health Management System." In 2012 6th International Conference on Pervasive Computing Technologies for Healthcare (PervasiveHealth) and Workshops, 224–27. https://doi.org/10.4108/icst.pervasivehealth.2012.248695.

Wang, Tao. 2012. "HealthWatch: A Diabetes Self-Management System for Personal Behavioral Rule Discovery." UCI-ISR-12-7. ISR Technical Report. Institute for Software Research, University of California, Irvine. https://www.isr.uci.edu/sites/isr.uci.edu/files/techreports/UCI-ISR-12-7.pdf.

Wang, Tao, and Beryl Plimmer. 2009. "SmartList: Exploring Intelligent Hand-Written List Support." In Proceedings of the 10th International Conference NZ Chapter of the ACM's Special Interest Group on Human-Computer Interaction, 61–64. CHINZ '09. New York, NY, USA: ACM. https://doi.org/10.1145/1577782.1577793.

ACADEMIC RESEARCH EXPERIENCE

Assessing the potential of adding spatial audio feedback to screen readers   2017 – 2018

Conducted user studies with 20 visually impaired participants to evaluate user behaviors and attitudes on using spatial audio feedback to convey web page layout information

Method: semi-structured interview, observation, survey, keystroke logging, statistical analysis on quantitative data, open coding on qualitative data

Understanding the communication barriers between sighted and blind web users   2017

Analyzed 50+ written instructions on web-based tasks to uncover language usage and patterns that are problematic to blind screen reader users

Method: online survey, crowdsourced data collection, open coding on qualitative data

Evaluating Web Audio API's spatialization features   2015 - 2016

Implemented two experiments (18 participants and collected 4000+ interaction data) to evaluate the recognition of stationary audio and moving audio spatialized via Web Audio API and reveal connections between various spatial properties and recognition accuracy

Method: keystroke logging, survey, statistical analysis

Using geofencing to improve the design of location-based services   2014 – 2015

Conducted empirical experiment on using geofencing service to reduce location-based services' battery consumption on mobile devices

Method: sensor data, statistical analysis

User attitudes towards location-aware information sharing   2013 – 2014

Developed location-aware information sharing Android prototype and designed user studies with 10+ participants to understand user attitudes

Method: server log, interview

HONORS & AWARDS

Recipient of SICCHI Travel Grant   2017

Recipient of SIGACCESS Travel Scholarship   2016

Recipient of Small Grant Program, Center for Organizational Research, University of California, Irvine   2013

Postgraduate Bursary (Science), University of Auckland   2007

Senior Prize in Computer Science, Department of Computer Science, University of Auckland   2004

ICT academy scholarship program, Department of Computer Science, University of Auckland   2004

Summer scholarship finalist, Department of Computer Science, University of Auckland   2004

PROFESSIONAL AND COMMUNITY SERVICES

Peer reviewer for CHI'17   2016

Student Volunteer for ICGSE'16   2016

Peer reviewer for UbiComp'15   2015

Student Volunteer for UbiComp'14   2014

Informatics Graduate Student Association Social Committee, UC Irvine	2011 – 2013
Special Olympic North Harbour, North Shore, New Zealand	2007 – 2008

CERTIFICATES

Microsoft Certified Professional Developer: Web Developer	2009
Microsoft Certified Technology Specialist: .NET Framework 2.0, Web Applications	2007
Microsoft Certified Professional	2006