

Hans Djalali

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RESEARCH INTERESTS

Primary Areas: Accessibility & HCI in software engineering; empirical studies of developer communities; usability of development environments; evidence-based practices for accessible tools and computing education.
Emerging Interests: Accessibility in block-based programming environments; inclusive design for computational thinking tools; developer tool usability and accessibility.

TEACHING AREAS

Software Engineering; Software Testing & Quality; Human-Computer Interaction (HCI/UX); Empirical Methods & Data Analysis; Accessibility in Computing; Programming Fundamentals; Data Structures and Algorithms.

WORK AUTHORIZATION

U.S. Citizen, no sponsorship required.

EDUCATION

University of North Texas 2023 - Expected May 2026

PhD in Computer Science - GPA: 4.0/4.0

Denton, Texas, USA

- Dissertation: "Exploring Usability and Accessibility in Software Development through Developer Discussions"
- Expected Defense: March 2026
- Advisor: Dr. Stephanie Ludi; Co-Advisor: Dr. Wajdi Aljedaani
- Ph.D. Candidate; Completed all required coursework in Advanced HCI Research, Computer Interfaces, and Advanced Software Engineering

University of North Texas

2022 - 2023

Master of Science in Computer Science - GPA: 4.0/4.0

Denton, Texas, USA

- Thesis: "Evaluating Stack Overflow Usability Posts in Conjunction with Usability Heuristics"
- Advisor: Dr. Stephanie Ludi
- Relevant Courses: Software Engineering, Software Testing, Usability Testing, Analysis of Algorithms, Big Data/Data Science

University of North Texas

2021 - 2022

Second Bachelor's Degree in Computer Science - GPA: 4.0/4.0

Denton, Texas, USA

PUBLICATIONS AND PRESENTATIONS

*Note: All publications to date appear under the name **Hamed Jalali**.*

Journal Papers

Jalali, Hamed., [MISSING: complete authors]. "The Evolution of Software Usability in Developer Communities: An Empirical Study on Stack Overflow." *MDPI Software Journal*, Under Review.

Peer-Reviewed Conference Papers

Jalali, Hamed., [MISSING: complete authors]. "The Gap Between Usability Theory and Practical Implementation: An Empirical Study on Stack Overflow." *Proceedings of HCI International*, 2025. [Accepted]

Jalali, Hamed., [MISSING: complete authors]. "Understanding Developer Misconceptions About Accessibility and Usability: An Empirical Study on Stack Overflow." *Proceedings of HCI International*, 2025. [Accepted]

Jalali, Hamed., [MISSING: complete authors]. "Accessible Gaming Through Better Captions: Preferences and Inclusivity of Deaf and Hard-of-Hearing Players." *Proceedings of the ACM International Web for All Conference (W4A)*, 2024.

Alghamdi, A., **Jalali, H.**, [MISSING: other authors]. "Developer Challenges and Trends in Web Accessibility: A Stack Overflow Analysis." *Proceedings of the ACM International Web for All Conference (W4A)*, 2024.

Conference Presentations & Posters

Jalali, Hamed., [MISSING: complete authors]. "Usability Heuristics: Can Jakob Nielsen's 10 Detect Modern Usability Issues?" *UNT Computer Science & Engineering Research & Development Expo*, 2024. [Poster]

Other Scholarly Works

Jalali, Hamed., Afshari, A. "Our Sedimented Petit-bourgeois Body: Sedimented Silence." *Society for Literature, Science, and the Arts (SLSA) Conference*, 2023.

Theses

Jalali, H. "Evaluating Stack Overflow Usability Posts in Conjunction with Usability Heuristics." Master's Thesis, University of North Texas, 2023.

TEACHING EXPERIENCE

Instructor of Record

University of North Texas College of Engineering
Teaching Fellow

Jan 2025 - Present
Denton, Texas, USA

- Sole instructor of record for CSCE 5460 (Software Testing and Empirical Methodologies) and CSCE 5430 (Software Engineering) at graduate level
- Delivered comprehensive lectures and hands-on laboratory sessions; managed assessment, regrades, and TA coordination
- Built course's empirical-testing strand: accessibility-aware testing labs, reproducible methods, and detailed rubrics
- Advised student teams on experiment design, test coverage, CI/CD, and reporting practices

Course	Univ.	Evaluation	Responses	Semester	SPOT PDF
CSCE 5460 – Software Testing and Empirical Methodologies	UNT	4.8	(41/44) 93%	Spring '25	
CSCE 5460 – Software Testing and Empirical Methodologies	UNT	4.5	(11/11) 100%	Summer '25	
CSCE 5430 - Software Engineering	UNT			Fall '25	

Teaching Assistant

University of North Texas College of Engineering
Graduate Teaching Assistant

Sep 2021 - Dec 2024
Denton, Texas, USA

- Served as TA for undergraduate and graduate courses: CSCE 5460 Software Testing and Empirical Methodologies, CSCE 5430 Software Engineering, CSCE 5150 Analysis of Computer Algorithms, CSCE 3444 Software Engineering, CSCE 2610 Computer Organization
- Co-instructed Software Engineering course, contributing to 31% improvement in student evaluation scores (2022 to 2023)

- Held regular office hours; developed and graded assignments; facilitated laboratory sessions and group activities

K-12 and Outreach Teaching

School of Robotics and STEM at North Texas

Oct 2023 - Present

Lead Robotics Instructor

Argyle, Texas, USA

- Developed and delivered hands-on robotics curriculum for students ages 10-15 using Arduino and Lego Spike Prime
- Served multiple schools: Liberty Christian School, North Star Academy of Lantana, Westlake Academy
- Grew program enrollment by 30% through engaging curriculum design and student-centered teaching

Tarrant County College & UT San Antonio

June - July 2025

Robotics Workshop Instructor

Fort Worth & San Antonio, TX

- Led NSF-funded 4-day intensive robotics internship and 2-day workshop for college students
- Designed curriculum and guided teams through robotics design, build, and programming phases

RESEARCH EXPERIENCE

Ph.D. Candidate Researcher

2023 - Present

University of North Texas

Denton, Texas

- Conducted empirical analysis of Stack Overflow data spanning 16-17 years examining developer understanding of usability and accessibility
- Performed qualitative and quantitative analysis of developer discussions; investigated misconceptions and temporal trends
- Employed mixed-methods approach combining thematic coding with statistical analysis

Collaborative Research

Current

Google Blockly Accessibility Project

- Collaborating on keyboard navigation improvements for Google Blockly block-based programming environment
- Focus on accessibility in computational thinking tools for K-12 education

MENTORING & ADVISING

Honors College Independent Projects (Spring 2025): Supervised 2 Honors Contract students in independent research projects beyond regular course requirements. Assisted in developing suitable topics; provided individualized mentorship throughout semester. Received formal recognition from UNT Honors College Dean for enriching student academic experiences.

UR2PhD Program (Fall 2024): Mentored 4 undergraduate researchers in empirical research methods. Developed IRB-aligned studies on color-vision deficiencies in block-based programming tools. Trained students in qualitative and quantitative research methods.

TAMS Research Mentorship (Fall 2023 - Spring 2024): Mentored 3 Texas Academy of Mathematics and Science high school students in experimental design, data collection/analysis, and research writing. Projects led to peer-reviewed poster presentation at UNT R&D Expo.

PROFESSIONAL SERVICE

Conference Reviewing: CHI 2024 (ACM Conference on Human Factors in Computing Systems)

Leadership: President, Iranian Student Association (IRSA), UNT (2023-present). Led cultural programming; launched organization website; fostered inclusive community for Iranian and Persian students.

AWARDS & HONORS

Academic Achievement: Perfect 4.0 GPA across all three degrees (BS, MS, PhD)

SKILLS

Research Methods: Empirical software engineering, qualitative data analysis (content analysis, thematic analysis), quantitative methods, mixed-methods research design, user studies, usability testing

Accessibility & Usability: WCAG Guidelines, Accessibility Compliance Testing, Usability Testing, Screen Reader Compatibility Analysis, Inclusive Design Principles

Programming Languages: Python, JavaScript, C/C++, Node.js, XML

Web Technologies: HTML5, CSS, React, Webflow

Cloud and Database: Google Cloud Platform (GCP), MongoDB, Google Firebase Database

Software Development Tools: Git/GitHub, VS Code, PyCharm, Jupyter Notebook, Unit testing, Jest, Vitest

Collaboration & Project Management: Jira, Trello, Notion, Slack

UI/UX Design: Figma, Adobe Photoshop, Adobe Illustrator

Educational Technology: Block-based programming (Google Blockly, Lego Spike Prime), Arduino, robotics platforms

Other Tools: Unix Shell, Conda, MS Office Suite

PROFESSIONAL EXPERIENCE

Photoromina

Sep 2014 - 2020

Business Owner

- Established and managed photography studio; led team operations and client relations
- Developed business acumen and project management skills

REFERENCES

Stephanie Ludi

Professor, Associate Chair, Associate Dean

University of North Texas

Phone: +1 (940) 369-7124

- Director of DiscoverABILITY Lab; Co-Editor-in-Chief, ACM TACCESS
- Email: stephanie.ludi@unt.edu
- Relationship: Doctoral Advisor

Wajdi Aljedaani

Director of Artificial Intelligence Governance

Saudi Authority for Data and Artificial Intelligence

Phone: +1 (940) 999-8885

- Email: wajdi.j1@gmail.com
- Relationship: Doctoral Co-Advisor

Amir Jafari

Associate Professor

University of North Texas

Phone: +1 (940) 565-3879

- Email: Amir.Jafari@unt.edu
- Relationship: Employer and Professional Mentor

Last Updated: October 15, 2025