Sahar Mehrpour
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EDUCATION:

Ph.D. in Computer Science (Aug 2017 - May 2024), *George Mason University,*
Advisor: Dr. Thomas D. LaToza.
Thesis title: Helping Developers Work with Design Decisions.

M.Sc. in Computer Science (Aug 2014 - July 2016), *University of Manitoba,*
Advisor: Dr. Stephane Durocher.
Thesis title: Minimizing the Maximum Interference in K-Connected Networks.

M.Sc. in Computer Science, (Aug 2011 - Aug 2013), *Sharif University of Technology,*
Advisor: Dr. Alireza Zarei
Thesis title: Reconstructing an Environment Using Visibility Information.

B.Sc. in Computer Science, (Aug 2007 - Aug 2011), *Sharif University of Technology,*
(B.Sc. project) Web-based Forum, Advisor: Dr. Alireza Zarei.

INDUSTRIAL EXPERIENCES:

Software Engineer Intern (2023, June - Sep) Google, Remote.
This project aims to design and create a fresh visualization method for presenting the log data generated by the Google Search Generative AI tool. Engineers must delve into the log data to gain insights into user behavior. Nevertheless, the current tools available for examining this log data are overly complex and challenging for the majority of users. The objective of the new visualization is to make it user-friendly and straightforward, ensuring that it can be easily utilized by all users to explore the log data effectively. My internship was Supervised by Chenjie Yu and Nan Jiang.

Software Engineer Intern (2022, Sep - Dec) Google, Remote.
During my internship I worked with a team at the Google Accessibility group, on a tool developed to support accessible reading. This tool is Google Chrome Extension which renders texts in a simplified format, and helps people with cognitive impairments read and comprehend texts. In this project, I collaborated to add more accessible features including inserting labels and highlight phrases during read-aloud. I collaborated with a Google Accessibility team for UX decisions and collaborated with a Google ML team to integrate tflite model used for detecting phrases into the Toolkit. My internship was Supervised by Ajit Narayanan and Shari Trewin.

ACADEMIC EXPERIENCES:

Research Assistant (2017, Fall - 2024, Summer) Computer Science Department, George Mason University, USA.
I am a member of DevX (Software Engineering) lab in which we study the interaction between users and programming development tools. In today's practice, developers often neglect documentation and usually documentation is missing or outdated. I am designing and implementing a new tool, ActiveDocumentation, by which users are able to document their design decisions as they are coding. Our purpose is to provide incentives that encourage users to document their design choices using this tool. We also designed and implemented a new user interface called **RulePad** for writing design rules without needing special skills. Currently, we are exploring properties of design decisions to improve our tool and other existing rule checkers.

Graduate Fellowship (2016, Fall - 2017, Spring) Computer Science Department, University of Utah, USA.
Upon my admission to Computer Science PhD program in 2016, I was awarded a graduate fellowship. I worked with two great faculty members in Computer Science department, Tamara Denning and Alexander Lex. I designed and developed a website for visualizing information of publications in privacy and security conferences in a project mentored by Dr. Denning. While I was working with Dr. Lex, I was working on visualizing orthopedic patients information. This project was an IRB approved project and was supervised by a few medical doctors.

Research Assistant (2014, Fall - 2016, Summer) Computer Science Department, University of Manitoba, Canada.
During my graduate studies in University of Manitoba, I was a member of Computational Geometry lab supervised by Dr. Stephane Durocher. We were studying problems in Computational Geometry that have applications in real world. We published several research papers at Computational Geometry venues including CCCG (conference), COCOON (conference), and Theoretical Computer Science (journal).

Lab Instructor (2016, Winter) Operating Systems, Dept. of Comp. Sci. University of Manitoba, Canada.
During my graduate studies in University of Manitoba, I decided to work as a teaching assistant for the undergraduate course "Operating Systems". I was a lab instructor for a class of 40 students, 2 sessions each week, semester long.

Teaching Assistant (2015, Fall) Introduction to Computer Science, Dept. of Comp. Sci. University of Manitoba, Canada.
I was a grader for a first year undergraduate course with 30 students. In sum, I graded 5 programming assignments written in Processing language.

Teaching Assistant (2015, Fall) Automata Theory and Formal Languages, Dept. of Comp. Sci. University of Manitoba, Canada.
I was a grader for a third year undergraduate course with 40 students. In sum, I graded 5 written assignments.

PUBLICATION:

Mehrpour, S., LaToza, T. D. *A survey of tool support for working with design decisions in code.*, ACM Computing Surveys (CSUR), 56(2), 2023.

Mehrpour, S., LaToza, T. D. *Can static analysis tools find more defects?*, Empirical Software Engineering (EMSE), 28(1), 2022.

Mehrpour, S., LaToza, T. D. *Programming Tools for Working with Design Decisions in Code*, In the Annual Workshop on the Intersection of HCI and PL (PLATEAU), 2021.

Mehrpour, S., LaToza, T. D., Sarvari, H. *RulePad: Interactive of Authoring Checkable Design Rules*, In ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), 2020.

Mehrpour, S., LaToza, T. D., Kindi, R. K. *Active Documentation: Helping Developers Follow Design Decisions*, In IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC), 2019.

Bahoo, Y., Durocher, S., Keil J.M., Mondal, D., Mehrabi, S., **Mehrpour, S.** *Polygon simplification by minimizing convex corners*, In Theoretical Computer Science, 2019. *

Durocher, S., **Mehrpour, S.** *Interference Minimization in k-Connected Wireless Networks*. In proceedings of the 29th Canadian Conference on Computational Geometry (CCCG), 2017. *

Bahoo, Y, Durocher, S., **Mehrpour, S.**, Mondal, D. *Exploring Increasing-Chord Paths and Trees*. In proceedings of the 29th Canadian Conference on Computational Geometry (CCCG), 2017. *

Bahoo, Y., Durocher, S., Keil, J. M., Mehrabi, S., **Mehrpour, S.**, Mondal, D. *Polygon Simplification by Minimizing Convex Corners*. In proceedings of the 22nd International Computing and Combinatorics Conference (COCOON), 2016. *

Bahoo, Y., Bunt, A., Durocher, S., **Mehrpour, S.** *Drawing Graphs Using Body Gestures*. Poster abstract in Proceedings of the International Symposium on Graph Drawing and Network Visualization (GD) 2015. *

* The conference venue is Computational Geometry. The authors are listed in alphabetical order.

HONORS and AWARDS:

- ***First*** place in PatriotHacks, Informed XP challenge, George Mason University, 2019. Our team developed a novel idea for automating research in Smart TV user experiences.
- Travel grant to attend CRA-W Grad Cohort workshop in San Francisco, CA, 2018.
- Computer Science Department Fellowship, University of Utah, 2016 (valued 21,000 USD).
- International Graduate Student Scholarship, University of Manitoba, 2015 (valued 2,000 CAD).
- International Graduate Student Entrance Scholarship, University of Manitoba, 2014 (valued 2,000 CAD).
- Faculty of Graduate Studies Scholarship (Guaranteed Funding Packages), 2014 (valued 16,000 CAD).
- *Exceptional Talent Award* for the M.Sc. Program in Computer Science from Mathematical Science Department of Sharif University of Technology, 2011.
- Graduated as the ***second*** student in Mathematical Science Department, Computer Science Group, Sharif University of Technology, 2011.

SKILLS:

- **Web Development Frameworks**: React (proficient), Angular (familiar)
- **Programming Languages**: JAVA, HTML, JavaScript (proficient), Python, TypeScript, JSF, JSP, C++ (familiar), Go (familiar)
- **Libraries**: D3(V4), Bootstrap, Node.js (proficient)
- **Tools**: LaTeX(proficient), ANTLR (familiar)