Niloofar Mansoor

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Education

University of Nebraska - Lincoln **Lincoln, Nebraska**
PhD in Computer Science; GPA: 4.0 December 2022
Dissertation title: An Empirical Assessment of Formal Models and Static Analysis Alarms in the Context of Defect Detection
Relevant Coursework: Software Architecture, Software Verification, Design and Analysis of Algorithms, Data Modeling For Systems Development, Mobile Software Analysis
Adviser: Dr. Bonita Sharif

University of Nebraska - Lincoln **Lincoln, Nebraska**
M.Sc., Computer Science; GPA: 4.0 July 2017 - May 2020
Thesis title: Formal Modeling and Analysis of a Family of Surgical Robots - Defended December 2019

Shahid Chamran University of Ahvaz **Ahvaz, Iran**
Bachelor of Engineering, Computer Engineering - Software September 2011 - March 2016

Research Interests

Software Engineering, Human-Computer Interaction, Program Comprehension, Eye Tracking, Social Computing

Professional Experience

SERESL - Graduate Research Assistant **Since Winter 2020**
Assessing Static Alarm Warning Messages (In progress)

- Empirical study on static alarms repositioning and its effects on manual inspection
- Responsible for conducting the study, setting up the online study environment on Qualtrics, and implementing web applications for cognitive tasks
- Responsible for conducting the eye tracking experiment and collecting and analyzing data

An exploratory study on the Alloy Specification language

- Empirical research on the comprehension of the Alloy Specification language
- Responsible for designing the experiment, implementing cognitive task applications, participant recruitment
- Conducted quantitative and qualitative data analysis on the participant's data

E2 Lab - Graduate Research Assistant **Since Winter 2018**
Automatic detection of compatibility issues in Android applications

- Research on Android compatibility issues due to API-related mismatches
- Responsible for conducting and studying experiments performed with different tools

Dependability analysis of a robotic surgery system

- Worked on reliability and dependability analysis of a robotic surgery system
- Developed architectural models of the robot system in Alloy specification language to find system bugs

Peer Reviewed Publications

Niloofar Mansoor, Tukaram Muske, Alexander Serebrenik, Bonita Sharif - **An Empirical Assessment on Merging and Repositioning of Static Analysis Alarms.** IEEE 22nd International Working Conference on Source Code Analysis & Manipulation (SCAM '22)

Bruno Silva, Clay Stevens, **Niloofar Mansoor**, Witawas Srisa-an, Tingting Yu, Hamid Bagheri - **SAINTDroid: Scalable, Automated Incompatibility Detection for Android.** 52nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN'22)

Bonita Sharif, **Niloofar Mansoor - Humans in Empirical Software Engineering Studies: An Experience Report.** - 2022 1st Workshop on Advances in Human-Centric Experiments in Software Engineering (HUMAN 2022)

Niloofar Mansoor - Empirical Assessment of Program Comprehension Styles in Programming Language Paradigms. - 2021 IEEE Symposium on Visual Languages and Human-Centric Computing (VL/HCC 2021). Virtual Conference. (Presented at the conference)

Niloofar Mansoor, Cole S. Peterson, Bonita Sharif - **How Developers and Tools Categorize Sentiment in Stack Overflow Questions - A Pilot Study.** - Sixth International Workshop on Emotion Awareness in Software Engineering - An ICSE 2021 Workshop (SEmotion 2021 - ICSE). (Presented at the conference)

Hamid Bagheri, Eunsuk Kang, **Niloofar Mansoor - Synthesis of Assurance Cases for Software Certification.** 42nd International Conference on Software Engineering - New Ideas and Emerging Results (ICSE NIER 2020)

Niloofar Mansoor, Jonathan A. Saddler, Bruno Silva, Hamid Bagheri, Myra Cohen, Shane Farritor - **Modeling and Testing a Family of Surgical Robots: An Experience Report.** 26th ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE 2018), Industrial track. (Presented at the conference)

Works Under Review

Niloofar Mansoor, Hamid Bagheri, Eunsuk Kang, Bonita Sharif - **The Effect of Experience on Bug Fixing Tasks in Alloy Models.** 45th International Conference on Software Engineering (ICSE 2023)

Works in Preparation

Cole S. Peterson, **Niloofar Mansoor**, Mike Dodd, Bonita Sharif - **Assessing the Effect of Programming Language and Task On Eye Movements.** ACM Transactions on Computing Education (Revisions requested, to be re-submitted)

Niloofar Mansoor, Cole S. Peterson, Bonita Sharif - **How Developers Use Stack Overflow During Code Summarization – An Eye Tracking Perspective.** Empirical Software Engineering Journal (EMSE), to be submitted (top tier SE journal)

Research Methods and Skills

Research Methods: Experiments, eye tracking, interviews, user study design, usability studies, surveys, exploratory data analysis, qualitative and quantitative research methods, statistics, A/B testing.
Programming Languages and Technologies: Java, Python, HTML5, CSS, SQL, R, Git, OOP, Pandas, Alloy Specification Language, Adobe Creative Suite, Qualtrics, JASP, SPSS, Tobii studio.

Teaching Experience

Graduate Teaching Assistant
SOFT162 - Software Engineering Fundamentals **Summer 2022**
School of Computing, University of Nebraska-Lincoln

- Conducted the labs and helped the students with learning software engineering fundamentals, Python, and Kivy
- Helped the students on homework assignments and answered questions
- Graded the projects and journals

CSCE 155N - Computer Science I **Fall 2021**
School of Computing, University of Nebraska-Lincoln

- Designed the course projects for students and helping them with solving the problems
- Held office hours for students to help them with learning the course material and solving the homework and project problems

SOFT160 - Software Engineering I **Fall 2017**
Department of Computer Science and Engineering, University of Nebraska-Lincoln

- Conducted the labs and helped students with learning the basics of software engineering and programming in Java
- Held office hours for students to help them with learning the course material and solving the homework and project problems

Honors and Awards

Mary E. and Elmer H. Dohrmann Fellowship **June 2022**
Awarded from the Mary E. and Elmer H. Dohrmann Fellowship Fund by the School of Computing at the University of Nebraska-Lincoln for leadership and service

UNL School of Computing Award **April 2022**
2021-2022 Outstanding Graduate Student Service Award

Milton E. Mohr Fellowship **April 2021**
Awarded by the College of Engineering at the University of Nebraska-Lincoln for the Academic Year of 2021-2022. The Milton E. Mohr Fellowship was established in 1989 for students in the College of Engineering or Biotechnology degree programs. Students are selected based on their academic performance and potential for accomplishments in their specific fields.

CRA-WP Grad Cohort Workshop **April 2022**
Sponsored by Grad Cohort Workshop for Women, funded by the NSF.

Grace Hopper Celebration of Women in Computing Scholarship **September 2021, 2020**
Sponsored by Department of Computer Science and Engineering at University of Nebraska-Lincoln

Recipient of NSF travel grant **November 2018**
Received partial funding for traveling expenses for attending and presenting a paper at the FSE/ESEC conference

Professional Service

Hiring Committee Student Member **Fall 2019**
Served as a student member in the Software Engineering assistant professors hiring committee

Outreach Events

Girls Code Lincoln Workshop **April 3rd, 2022**
During this event, I taught the students from Girls Code Lincoln about eye tracking and how we conduct eye tracking studies. We also talked to them about the exciting aspects of pursuing a career in Computer Science and Software Engineering.

Sunday with a Scientist Virtual event **May 23rd, 2021**
In this event, the public meet a different scientist each month to learn about topics and careers in science. Scientists will share what they study in a fun, informal way through hands-on activities, demonstrations, and conversation. We played a live game with participants via zoom and taught them how errors are detected and corrected.

Lincoln Hour of Code and Interactive Tech Fair event **December 7th, 2019**
During this event, I helped showcase some of the eye tracking devices and encouraged children to use computers equipped with the eye tracking devices to learn how useful they can be.

Fall Graduate Information Day **November 2nd, 2019**
I participated in a graduate student recruitment event and served on a panel and answered potential students' questions about graduate school and the department.

Archie's Late Night Party at State Museum **June 13th, 2019**
I helped with showcasing eye tracking devices and introduced children and their parents to eye tracking, the kids read bedtime stories on a screen and we showed the visualization of their eye gaze to them and their parents. The goal was to encourage children to explore computer science through simple activities.

References

Bonita Sharif, Associate Professor
School of Computing, University of Nebraska-Lincoln
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Eunsuk Kang, Assistant Professor
Institute for Software Research
School of Computer Science Carnegie Mellon University
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Witawas Srisa-an, Professor
School of Computing, University of Nebraska-Lincoln
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