Morva Saaty

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Summary

I am a Ph.D. student at Virginia Tech pursuing my doctoral degree in Computer Science & Applications. I have a strong research background in Human-Computer Interaction (HCI), User Experience Design, Visual Attention, and Gamification. I am also proficient in program design and development using Python, Java, and C++. With a broad skill set covering qualitative and quantitative analysis methods, experimental research, and knowledge of multiple language programming languages, I am constantly looking for opportunities to improve, extremely passionate to broaden my research experience, and highly motivated to learn.

Education

Virginia Polytechnic Institute and State University — Aug. 2020 – Expected May. 2024
Ph.D. in Computer Science and Applications - GPA: 4/4.0 — *Blacksburg, VA, US*

University of Tehran — Sep. 2016 - Dec 2018
M.Sc. in Information Technology Engineering - GPA: 4/4.0 — *Tehran, Iran*

University of Tehran — Sep. 2011 - June. 2016
B.Sc. in Information Technology Engineering — *Tehran, Iran*

Research Experience

Graduate Research Assistant — June 2019 – Present
Virginia Polytechnic Institute and State University — *Blacksburg, VA, US*

- Designing Mobile Applications to Minimize Disorientation in Informal Learning Environments(ILE) with a focus on children by using Java, Android Studio, and PostgreSQL to store data. (Paper is accepted in IDC 2021)
  Methods: Participant Observation, Experiment Design, Qualitative/Quantitative Analysis, App Development
- Exploring social experiences afforded by app/game/technology-mediated and understanding design considerations for remote recreation solutions.
  Methods: Surveys, Diaries, Focus Groups, Qualitative Analysis
- Understanding user needs and motivational factors to design and develop a location-based mobile exergame which can encourage users to do exercise for long term while engaging them in outdoors.
  Methods: Social Media Analysis (NLP and Machine Learning techniques), Diaries, Focus Groups, Qualitative Analysis, Prototyping, Personas

Graduate Research Assistant — July. 2017 - Jan. 2019
University of Tehran — *Tehran, Iran*

- Master's Thesis: Studying the Effect of Audio Features on Players' Visual Attention Map contributing toward a Conceptual Audio-Visual Game Attention Model for Efficient Bitrate Allocation in Cloud Gaming. - using Eye Tracking system. (Paper is submitted)
  Methods: Experiment Design, Semi-Structured Interviews, Qualitative/Quantitative Analysis

Publications

Conference Proceedings

- [**CHI Play 2021**] **Morva Saaty**, Derek Haqq, Devin B. Toms, Ibrahim Eltahir, and D. Scott McCrickard. "A Study on Pokémon GO: Exploring the Potential of Location-based Mobile Exergames in Connecting Players with Nature." In Proceedings of the Annual Symposium on Computer-Human Interaction in Play, Virtual Event, Austria, 2021.

- [**CSCW 2021**] Neelma Bhatti, Lindah Kotut, Derek Haqq, Timothy L. Stelter, **Morva Saaty**, Aisling Kelliher, and D. Scott McCrickard. "Parenting, Studying And Working At Home In A Foreign Country: How International Student Mothers In The US Use Screen Media For And With Their Young Children." Computer Supported Cooperative Work (CSCW), 2021.

- [**IDC 2021 - Best paper honorable mention award**] Neelma Bhatti, **Morva Saaty**, and Scott McCrickard. "Designing Mobile Applications to Minimize Disorientation in Informal Learning Environments." In Interaction Design and Children, pp. 196-203. 2021.

- [**CHI Play 2021**] Derek Haqq, **Morva Saaty**, Jonathan T. Rukaj, Saylee Marulkar, Justin Israel, Emily Newton, Rudra Patel, Stephen Tan, and D. Scott McCrickard. "Toward a Design Theory of Game-Mediated Social Experiences - A Study of Among Us." In Proceedings of the Annual Symposium on Computer-Human Interaction in Play, 2021.

- [**CHItaly 2021 - Nature HCI Workshop**] **Morva Saaty**, Derek Haqq, Stephen Dooley, Jerin Manalel, Sophia Pentakalos, Samridhi Roshan, Devin Toms, and D. Scott McCrickard. "Exergames and Nature." In Proceedings of the CEUR Workshop, 2901, pp. 8–15. 2021.

- [**CHItaly 2021 - Nature HCI Workshop**] Derek Haqq, **Morva Saaty**, and D. Scott McCrickard. "Re (Connecting) through Shared Remote Outdoor Play." In Proceedings of the CEUR Workshop, 2901, pp. 32–40. 2021.

- [**CHI 2020**] Lindah Kotut, Neelma Bhatti, **Morva Saaty**, Derek Haqq, Timothy L. Stelter and D. Scott McCrickard. "Clash of Times: Respectful Technology Space for Integrating Community Stories in Intangible Exhibits." ACM CHI Conference on Human Factors in Computing Systems., Honolulu, HI. April 2020. [24.3% Acceptance Rate]

Development Experience

Undergraduate Thesis Project June. 2016 - Aug. 2016
University of Tehran *Tehran, Iran*

- Design and Implementation of the social network system which is focused on transporting the information and media between members, using Ruby on Rails, REST API

Web Developer June. 2015 - Aug. 2015
Mohandesin Moshaver Memari Va Mohit *Tehran, Iran*

- Back-end and Front-end Web developer of the company's website, using Ruby on Rails, HTML, CSS, JavaScript and jQuery

Skills

Languages: Java, Python, C/C++, SQL (Postgres), JavaScript, HTML/CSS, R, Matlab
Research Methods:surveys, interviewing, diary studies, focus groups, participant observation — Wireframing, Prototyping, Personas, Heuristic Evaluation — Experimental Design, Statistical Hypothesis Testing
Frameworks:Ruby on Rails, Windows Form Applications using C#
Developer Tools: Git, Visual Studio, PyCharm, IntelliJ, Eclipse, Gephi, Tableau, Rstudio, Android Studio, Observable, Elastic Search, Figma
Libraries: Pandas, NumPy, Matplotlib, D3, PyTorch

Academic Projects

Introduction to Deep Learning Course | *Python, Pytorch* Jan. 2021 - May. 2021

- Implementation of different CNN models for automatic detection of COVID-19 based of chest X-ray images.

Information Visualization Course | *D3.js, Tableau, Observable* Aug. 2020 - Dec. 2020

- Design and implementation of the visualization related to Covid-19 and Air quality data.

Introduction to Big Data | *Docker, Elastic Search, Hadoop, Scala* Sep. 2017 - Jan. 2018

- Designing and developing a reliable and scalabe system with specific features (Searching, Visualizing, and Distribution of nodes)

Statistical Inference Course | *R* Feb. 2017 - June. 2017

- tatistical analysis of the real dataset from kaggle.com by using ANOVA table and calculating other parameters (such as power, p-value, ...)

Pattern Recognition Course | *Python, Matlab* Sep. 2016 - Jan. 2017

- Design and Implementation of neural networks such as MLP and RBF, then train those for classification of the special given dataset.
- Implementation of clustering methods(such as KNN, Naïve Bayes, ...)

Social Networks Course | *Java, Gephi* Sep. 2016 - Jan. 2017

- Implementation of graphs characteristics like betweenness centrality and clustering coefficiency on large graph.

Internet Engineering Course | *Ruby on Rails* Feb. 2015 - June. 2015

- Design and Implementation of the FitNet website for the purpose of helping athletes to facilitate their exercise while using a device called "TotalCore."

Artificial Intelligence Course | *Python* Sep. 2014 - Jan. 2015

- Implementation of Minimax algorithm with Alpha-Beta Pruning, Connect-four game

System Analysis and Design Course | *C#, Visual Studio* Feb. 2014 - June. 2014

- Implementation of an email-based communication gateway for office of graduate studies, using Three-layered architecture and MVC pattern

Computer Networks Course | *C++, Socket Programming APIs* Feb. 2014 - June. 2014

- Implementation of a document sharing network with emphasis on OSI protocol stack

Advanced Programming Course | *C++, Socket Programming APIs* Feb. 2012 - June. 2012

- Design and implementation of multithread social network application,(similar to Twitter)

Teaching Experience

Graduate Teaching Assistant | *Virginia Tech, Blacksburg, VA*

- CS 5764: Information Visualization — Fall 2021
- CS 3724: Human Computer Introduction — Fall 2020, Spring 2022
- CS 3724/5714: Introduction to Human Computer Interaction + Usability Engineering — Spring 2021, Summer 2021

Graduate Teaching Assistant | *University of Tehran, Tehran, Iran*

- Human-Computer Interaction Course — Four semesters (Spring 2017, Fall 2017, Spring 2018, Fall 2019)
- Data Transmission Course — Fall 2017
- Artificial Intelligence Course — Two Semesters (Spring 2017, Fall 2014)