
EMAD AGHAYI

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RESEARCH INTERESTS

Software engineering, developer experience design, human-computer interaction, crowdsourcing, Networking.

PROFESSIONAL EXPERIENCE

Graduate Research Assistant at GMU, Fairfax, VA, USA *Aug 2017 - Present*

I am a member of DevX (Software Engineering) lab in which we study the interaction between users and programming development tools. I work at the intersection of software engineering and human-computer interaction. My research goal is to make developers more productive by providing better development tools and approaches. To achieve this goal, my research involves understanding developer behaviors, identifying problems, and designing tools and approaches to help with those problems using various HCI methods at each stage. Specifically, I research and design on the crowdsourcing in software engineering.

Software Engineer at ISC, Tehran, Iran *Dec 2015 - Jul 2017*

R&D in the area of large scale software, Led development team, built a large scale financial mobile banking software.

R&D Software Engineer at City-DI, Tehran, Iran *Apr 2013 - Nov 2015*

R&D in software engineering area, Led development team, built and maintained multiple software projects in financial industry like BioPay, Dandelion. They are provided with more detail in my personal web-page.

Graduate Researcher at Network Systems Research Lab , UT, Tehran, Iran *Sep 2011 - Feb 2017*

Researched on wireless networks, remote health monitoring, Smart homes.

EDUCATION

George Mason University, Fairfax, VA, USA *Aug 2017 - Present*

Ph.D. in Computer Science, Department of Computer Science.

George Mason University, Fairfax, VA, USA *Aug 2017 - May 2020*

M.Sc. in Software Engineering, Department of Computer Science.

University of Tehran (UT), Tehran, Iran *Aug 2011 - Mar 2014*

M.Sc. in Information Technology Engineering, Network Science and Technology Group.

Shiraz University of Technology, Shiraz, Iran *Aug 2005 - Jun 2010*

B.Sc. in Information Technology Engineering, Department of Computer and IT.

PUBLICATIONS

- [J1] **E. Aghayi**, T. D. LaToza, P. Surendra, S. Abolghasemi
"Implementing Microservices through Microtasks.", Submitted to Empirical Software Engineering, 2020.

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- [J2] M. Hoseini, **E. Aghayi**, F. Saghaei "A multidimensional model of knowledge sharing behavior in mobile social networks." *Kybernetes*, 2018.
- [J3] S. Majumder, **E. Aghayi**, M. Noferesti, H. Memarzadeh-Tehran, T. Mondal, Z. Pang, M. Deen "Smart homes for elderly healthcare—Recent advances and research challenges.", *Sensors*, 2017.
- [C1] Shinobu Saito, Yukako Iimura **E. Aghayi**, T. D. LaToza "Does Microtask Programming Work in Industry?", Submitted to ICSE 2020 Software Engineering in Practice.
- [C2] **E. Aghayi**, M. Khansari, H. Memarzadeh-Tehran "A new back-off mechanism for the S-MAC protocol with applications in healthcare." International Symposium on Telecommunications, 2014.

THESES

- [T1] Emad Aghayi. A New Back-off Mechanism for the S-MAC Protocol. Network Science and Technology Group, University of Tehran. 2014
- [T2] Emad Aghayi. Various Queue Management Algorithms in TCP, Department of Computer and IT, Shiraz University of Technology. 2009

ACADEMIC SERVICES

Reviewer:

CSCW: Journal of Computer Supported Cooperative Work	2019
Sensors: journal on the science and technology of sensors and biosensors	2019
Kybernetes The international journal of cybernetics, systems and management sciences	2019
Bioengineering: Journal on the science and technology of bioengineering	2019
INTERACT: International Conference on Human-Computer Interaction	2019

TEACHING

Teaching Assistant , George Mason University, Fairfax, VA, USA Course: Object Oriented Programming (CS 211)	2017
Instructor , Islamic Azad University, Tehran, Iran Course: Introduction to Software Engineering	2015
Instructor , Islamic Azad University, Tehran, Iran Course: Operating Systems	2015
Teaching Assistant , University of Tehran, Tehran, Iran Course: Wireless Sensor Network	2014

AWARDS AND HONORS

Won the first place among 400 participants in PatriotHacks hackathon	2019
Graduate Research Assistant, George Mason University,	Fall 2017 - present

Volgenau School of Engineering Tuition Waiver	<i>Fall 2017 - present</i>
Travel Grant to attend International Conference on Smart Sensors and Application	<i>2015</i>
Travel Grant to attend International Symposium on Telecommunications	<i>2014</i>
Ranked top 0.16% among nearly 500,000 participants in Iran's Physics and Mathematics nationwide universities' entrance exam.	<i>2005</i>
Ranked 3rd among more than 5,000 participants taking part in the B.Sc. entrance exam of private university in Iran	<i>2005</i>

FORMAL PRESENTATIONS

International Conference on Smart Sensors and Application , Universiti Teknologi Malaysia, Malaysia ,Kuala Lumpur Title: Wirelesss Body Area Networks	<i>2015</i>
International Symposium on Telecommunications , Iran, Tehran Title: MAC protocol for WSNs	<i>2014</i>
University of Tehran , Iran, Tehran Title: MAC protocol for WSNs	<i>2014</i>

TECHNICAL STRENGTHS

Back-end: *Advanced Knowledge of JavaSE, JavaEE, JPA, JTA, JMS, Servlet, Swing, Java Media Framework, Experience with Nodes.js, Express, Python and C#, Spring (Spring Core, Spring MVC, Spring Boot, Spring Security, Spring Data).*

Front end: *JSF, JSP, JavaScript, HTML, CSS, User Experience Testing.*

Containers: *Apache tomcat, JBoss EAP, Oracle WebLogic.*

Web-Service: *REST (JAX-RS, Jersey), SOAP (JAX-WS, WSDL, Axis2), Spring WS).*

Database: *Microsoft SQL, Oracle, MySQL, Firebase, Redis.*

Mobile development: *Android.*

Cloud: *Google Cloud Functions, Heroku Platform.*

Test: *Defect and Bug Discovery, Junit, Combinatorial test, Mutation testing (PIT).*

Analyzing and Monitoring: *SonarQube, SoapUI, JProfiler, Apache JMeter.*