Pooyan Behnamghader

PhD Student Updated: July 10, 2016

Department of Computer Science E-mail: pbehnamg@usc.edu
University of Southern California WWW: www.behnamghader.net

RESEARCH Interests Software Architecture Recovery, Software Repository Mining Cloud-based Microservices, (Mobile) Backend as a Service

EDUCATION

University of Southern California, Los Angeles, CA USA

Ph.D. Student, Computer Science

Aug. 2013 - Present

- Research Topic: "Cloud-Based Software Architecture Analysis"
- Advisor: Nenad Medvidovic

University of Tehran, Tehran, Iran

B.S., Computer Engineering

Sept. 2008 - May 2013

- \bullet GPA: 18.42 (of 20) Ranked 1st in class of 103
- Advisor: Fatemeh Ghassemi

Honors and Awards

Recipient of USC Provost's Ph.D. Fellowship

2013

Also offered fellowships and/or research assistantships from U Illinois, UT Austin, Georgia Tech, UC San Diego, U Toronto, and EPFL

Recipient of Summer@EPFL Scholarship

2012

Ranked 3rd in the 16th Annual Iran National University Students' Olympiad in Computer Eng. 2011 Qualified to pursue graduate studies in any Iranian university with scholarship Member of Iran's National Elites Foundation and received multiple grants

Ranked 11th in the 12th Annual Regional Contest of ACM ICPC in Asia region, Tehran Iran 2010 Member of University of Tehran's ACM ICPC team in 2009 and 2010

JOURNAL PUBLICATIONS

Pooyan Behnamghader, Duc Le, Joshua Garcia, Daniel Link, Arman Shahbazian and Nenad Medvidovic. "A Large-Scale Study of Architectural Evolution in Open-Source Software Systems." Journal of Empirical Software Engineering. (accepted subject to minor revisions.)

Conference Publications

Sonal Mahajan, Bailan Li, **Pooyan Behnamghader**, William G. J. Halfond. "Using Visual Symptoms for Debugging Presentation Failures in Web Applications." In Proceedings of the 9th IEEE International Conference on Software Testing, Verification and Validation (ICST 2016), Chicago, USA, April 2016.

Duc Minh Le*, Pooyan Behnamghader* (co-first author), Joshua Garcia, Daniel Link, Arman Shahbazian, and Nenad Medvidovic. 2015. "An Empirical Study of Architectural Change in Open-Source Software Systems". In Proceedings of the 12th Working Conference on Mining Software Repositories (MSR '15). IEEE Press, Piscataway, NJ, USA, 235-245.

ACADEMIC EXPERIENCE

Department of Computer Science, University of Southern California, USA

Doctoral Student under supervision of Dr. N. Medvidovic

Aug. 2013 - Present

- Developing a tool-set to use cloud computing in order to semi-automatically run large-scale evolutionary analyses on the history of systems in software repositories.
- Extended and improved ARCADE, a software workbench that employs a suite of architecturerecovery techniques and metrics for different aspects of architectural change.
- Improved Mahjong, a distributed software system that uses idle cycles on remote but networked computers to solve NP-complete problems.

Department of Informatics, University of Zurich, Switzerland

Visiting Doctoral Student under supervision of Dr. H. Gall

May - Sept. 2015

- Studied scalability, re-usability, and reliability of empirical studies in software engineering.
- Studied architecture-centric benchmarking of Infrastructure As A Service (IaaS) and Mobile Backend As A Service (MBaaS).

School of Computer and Communication Science, EPFL, Switzerland

Undergraduate Research Assistant of Dr. C. Petitpierre

May - Aug. 2012

- Developed a DSL using Xtext framework for generating Android Interfaces.
- Developed a compiler using Xtext for compiling Xtend templates.
- Developed a parser using JavaCC parser generator for parsing Xtext files.

School of Electrical and Computer Engineering, University of Tehran, Iran

Undergraduate Research Assistant of Dr. F. Ghassemi

Sept. 2012 - May 2013

• Provided a state space generator for process terms of Restricted Broadcast Process Theory (RBPT) extended with abstract data types, a formal framework for specification and verification of Mobile Ad-hoc Networks, by translating the specifications to ML.

Undergraduate Teaching Assistant

Sept. 2011 - May 2013

- Design and Analysis of Algorithms (head-TA), System Analysis and Design (head-TA)
- Software Engineering, Programming Languages, Advance Programming

Undergraduate Research Assistant of Dr. M. Raisee

May - Dec. 2011

• Developed numerical solvers using OpenFoam CFD software package for the problem of Fluid Dynamics Modeling of Advanced Oxidation Process in UV-H2O2 Photoreactors.

STARTUP EXPERIENCE

AmberMelon Smart Watch, Los Angeles, California USA

Co-founder and Technical Lead

Sept. 2015 - May 2016

- Developed a customize Android launcher application.
- Developed a cloud-based server-less platform for AmberMelon on Amazon AWS.
- Leaded Android and iOS mobile app development teams.
- Partnered with Qualcomm, Pegatron, Ingenic, and Compal.

Huntus Sharing Economy Platform, Los Angeles, California USA

Co-founder and Technical Lead

Feb. 2015 - Mar. 2016

- Developed a cross platform application using Xamarin.
- Developed a cloud-based back-end on Microsoft Azure.

Basir Tech., Tehran, Iran

$Computer\ Vision\ Developer$

May - Sept. 2007

• Developed computer vision techniques based on neural networks for license plate recognition.

LEADERSHIP EXPERIENCE

Department of Computer Science University of Southern California, USA

President of the Computer Science PhD Student Committee
Board Member of the Computer Science PhD Student Committee

Aug. 2015 - May 2016 Jan. 2014 - Jul. 2015

School of Electrical and Computer Engineering, University of Tehran, Iran

Secretary of the ACM Student Chapter

Aug. 2010 - Jul. 2011

• Four times recipient of world's top-five ACM Student Chapter Excellence Award since 2011. Secretary of the Representatives Community

Jul. 2009 - May 2010

Areas of Expertise ${\bf Software\ Platform}\hbox{:}\ {\bf Android\ Open\ Source\ Platform}\hbox{,}\ {\bf Android\ Application\ Framework}$

Cloud Platform: Amazon Web Services, Microsoft Azure

Mathematics: Algorithms and Data Structures, Graph Theory, Set Theory

Open Source Contributions: RBPT (founder), SoftEvo (founder), ARCADE (major), Mahjong