

# Hamed Barzamini

## Education

- 2020–present **PhD in Computer Science; GPA: 3.87/4**, Northern Illinois University(NIU), DeKalb, US
- 2012–2015 **Master of Science in Software Engineering; GPA: 16.57/20 (3.45/4)**, Shahid Beheshti University(SBU), Tehran, Iran, Graduation October 2015
- 2008–2012 **Bachelor of Science in Software Engineering; GPA: 17.69/20 (3.81/4)**, University of Mazandaran, Babolsar, Iran, Graduation January 2012, Graduated with the highest GPA

## Research Interests

- Requirements Engineering For AI
- Explainable AI (XAI)
- Big Data Analytic
- Deep Learning Models

## Publications

- Conference **Hamed Barzamini** and, M. Rahimi, “*B-AIS: An Automated Process for Black-box Evaluation of Visual Perception in AI-enabled Software against Domain Semantics*”, The 37th IEEE/ACM International Conference on Automated Software Engineering, 2022
- Hamed Barzamini** and, M. Rahimi, “*CADE: The Missing Benchmark in Evaluating Dataset Requirements of AI-enabled Software*”, The 30th IEEE International Conference on Requirements Engineering, 2022
- Hamed Barzamini**, M. Rahimi and H. Alhoori and, M. Shahzad, “*Improving Generalizability of ML-enabled Software through Domain Specification*”, 1st International Conference on AI Engineering – Software Engineering for AI, 2022
- Hamed Barzamini** and Mona Ghassemian, “*Identification of energy theft in smart energy grid using principal components analysis technique*”, Smart Grid Conference (in Persian), 2015
- Journal **Hamed Barzamini**, M. Rahimi, H. Ferdowsi, F. Nazaritiji and, D. Brockmann, “*W-AIS: A Knowledge-Inspired and Transparent Engineering Process for Intelligent Software*”, Submitted On IEEE Transactions on Software Engineering, 2023
- Hamed Barzamini**, M. Rahimi and H. Alhoori and, M. Shahzad, “*A multi-level semantic web for hard-to-specify domain concept, Pedestrian, in ML-based software*”, [Journal of Requirements Engineering](#), 2021
- Hamed Barzamini** and Mona Ghassemian, “*Comparison Analysis of Electricity Theft Detection Methods for Advanced Metering Infrastructure in Smart Grid*”, [International Journal of Electronic Security and Digital Forensics](#), 2019
- H. Dahmardeh, M. Zareh, A. Mirzadeh. Ph, **H. Barzamini**, N. Nouruzi “*Brain Emotional Learning Basic Intelligent Control for Congestion Control of TCP Networks*”, [journal of Basic and Applied Scientific Research](#), 2013

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## Work Experience

- May 2023 – **Intel Student Ambassador for oneAPI, Northern Illinois University DeKalb, US**  
Present ○ Establishing domain-specific benchmarks for evaluating quality AI-enabled software datasets through semantic knowledge.
- Aug 2020 – **Research Assistant, Northern Illinois University DeKalb, US**  
Present ○ Utilized Visual Analytics to Analyze Requirements Specifications for AIS Vision-Based Perception.  
○ Requirements Engineering for AI-enabled software  
○ Concept Augmentation and Dataset Evaluation For AI-enabled Software  
○ Black-box Evaluation of Visual Perception in AI-enabled Software  
○ Knowledge-Inspired and Transparent Engineering Process for Intelligent Software Evaluation
- Nov 2015 – **Research Software Engineer, Shahid Beheshti University Tehran, Iran**  
Apr 2020 ○ Using AI and Machine Learning Technologies to Improve Customer Experience at Shopping Malls.  
○ Using Machine Learning and Big Data to Improve the Web User Experience.  
○ Parallelization and performance optimization on multiple pedestrian detection algorithms.  
○ Designing and Developing a Framework for Profiling and Auto-Learning of a Website User Behavior.  
○ A Real-Time Anomaly Detection System For Operational Time Series Metrics.  
○ Implementing DevOps life-cycle with Gitlab  
○ Developing a module to analyze and detect big data patterns in operational time series metrics  
○ Knowledge management and product development for AI applications.  
○ Integrated software engineering standards into group daily practices.  
○ Develop a module to analyse user data log to improve the web user experience  
○ Implementing TDD methodologies for developing new software

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## Teaching Experience

- 2021 Teaching Assistant Computer Architecture and Systems Organization Course, Department of Computer Sciences Northern Illinois University, DeKalb, US.
- 2020 Teaching Assistant Programming Principles in C++ Course, Department of Computer Sciences Northern Illinois University, DeKalb, US.
- 2013 Graduate Teaching Assistant Software Engineering Course, Department of Computer Sciences and Engineering Shahid Beheshti University, Tehran, Iran.
- 2011 Operating System Lab Tutor, Department of Information Technology, University of Mazandaran , Babolsar, Iran.

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## Computer skills

- Advanced Python, Scipy, Numpy, Pandas, Shell Script, Linux, Apache HTTP Server, MATLAB
- Intermediate JAVA, TensorFlow, PyTorch, C/C++, JavaScript, Django, git, Elasticsearch, MySQL, logstash, filebeat
- Basic HTML, CSS, SVN, UML,  $\LaTeX$ , Nginx, Docker

## Relevant Coursework

- AI-enabled Software Engineering
- Applied Machine Learning
- Natural language processing
- Algorithms Analysis and Design
- Advanced pattern recognition
- Visual Analytic

## References

### 1 Prof. Mona Rahimi (Ph.D. Advisor)

- Assistant Professor
- Department of Computer Science
- Northern Illinois University
- 100 Normal Rd, Office 568
- DeKalb, IL 60115
- E-mail: rahimi@cs.niu.edu

### 2 Dr. Mona Ghassemian (MSc Supervisor)

- Senior Research Scientist, British Telecom, UK
- IEEE UK and Ireland- Section vice-chair
- Assistant Professor Faculty of Computer Science and Engineering
- Shahid Beheshti University, Tehran, Iran
- E-mail: mona.ghassemian@kcl.ac.uk