

# HESSAM MOEINI

## Postdoctoral Research Associate, University of Illinois at Urbana-Champaign

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## EXPERIENCES

### Postdoctoral Research Associate

#### University of Illinois at Urbana-Champaign, MONET Research Group

- November 2019 – Ongoing Urbana, Illinois
- Developing "ProvLet": Provenance-as-a-Service for Microscopy Experiments over Diverse Scales of Time and Space. Working on the systems towards introducing data, network, and IoT sensory data provenance
  - Check October edition of Open Access Government Publication (pg 248) for more information.
- Transformative Cyberinfrastructure for Ultra-Clean Scientific Laboratories [VIDEO]

### Lecturer and Graduate Research Assistant

#### University of Texas at Dallas

- August 2014 – November 2019 Dallas, Texas
- Introduced a novel semantic-based service discovery protocol for dynamic IoT-Edge-Cloud networks
- Introduced and developed a novel distributed Graphplan-based planning algorithm for service composition in dynamic IoT networks.
- Teaching: Discrete Mathematics for Computing (Spring 2018, Spring 2019)

### IoT and Industry 4.0 Engineer Intern

#### Stanley Black and Decker

- June 2018 – January 2019 Atlanta, Georgia
- Architecture design and implementation of Stanley's Smart Manufacturing and Industry 4.0 Proving Ground
- Worked with different IoT devices and industrial gateways to help developing the Stanley's Data Starter Kit project

### Software Analyst and Designer

#### Fanap

- December 2013 – August 2014 Tehran, Iran
- Scrum-based project management and software analysis of the official website of the 2014 TV program

### Network Security Engineer

#### Saba System Sadra

- March 2014 – August 2014 Tehran, Iran
- Developing the "Mavara" project, a Security Information and Event Management system (SIEM)

### Software Analyst and Designer

#### Saman Parallel Process Co.

- June 2011 – January 2013 Tehran, Iran
- Analysis and design of two different systems of "Production Planning" and "Cost Accounting Automation"

## SELECTED PUBLICATIONS (Full list available at: Google Scholar)

- Hessam Moeini, Todd Nicholson, Klara Nahrstedt, and Gianni Pezzarossi:  
1. ProvLet: A Provenance Management Service for Long Tail Microscopy Data *arXiv preprint arXiv:2109.10897*, 2021;
- Hessam Moeini, I-ling Yen and Farokh Bastani:  
2. Decentralized Service Discovery and Composition in Dynamic IoT Systems, *IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, 2021;
3. Service Specification and Discovery in IoT Networks, *IEEE International Conference on Web Services (ICWS)*, 2019;
4. Efficient Multi-Keyword Based Service Discovery Routing in Peer-to-Peer IoT Networks, *IEEE International Conference on Parallel and Distributed Systems (ICPADS)*, 2019;
- Hessam Moeini, Wenxi Zeng, I-ling Yen and Farokh Bastani:  
5. Toward Data Discovery in Dynamic Smart City Applications, *IEEE 17th International Conference on Smart City*, 2019;

## EDUCATION

### Ph.D. in Computer Science

#### University of Texas at Dallas

- August 2014 – November 2019
- Dissertation: Semantic and Logic-Based Routing Algorithms for Service Discovery and Composition in Dynamic IoT-Edge Networks

### M.Sc. in Computer Science

#### University of Texas at Dallas

- August 2017 – December 2018

### M.Sc. in IT Engineering

#### Sharif University of Technology

- September 2011 – July 2013

### B.Sc. in IT Engineering

#### Amirkabir University of Technology

- September 2006 – September 2010

## INTERESTS

- Internet of Things (IoT)
- Smart Cities
- Computer Networks
- Data Provenance
- Cloud Computing
- Semantic Modeling

## KNOWLEDGE and SKILLS

- PTC Thingworx
- Cumulocity IoT
- Microsoft Azure
- Grafana
- Node-RED
- Amazon Web Services (AWS)
- Java
- Python
- JSON
- SQL
- Unified Modeling Language (UML)
- MQTT
- Rest
- NS3
- Cooja
- TCP/IP
- Cisco Industrial Appliances
- Raspberry Pi
- Protégé
- MongoDB
- Linux (Ubuntu, Contiki, Raspbian)
- Docker
- Windows
- OS X

## HONORS

- Ericsson Graduate Fellowship**  
2018-2019 academic year
- Ranked Among Top %1**  
in "National Entrance Exam for M.Sc. Studies" in Information Technology (IT) major
- Ranked Among Top %0.7**  
in the "National Entrance Exam" in Mathematical and Physical sciences.