# TAHA EGHTESAD

*Curriculum Vitæ*

✉ teghtesad@uh.edu
🖮 taahaaa.ir
LinkedIn

## Education

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|---|---|
| Aug'18–present | **PhD**, *University of Houston*, Houston, TX, *3.81/4*. <br> Computer and Information Sciences |
| 2013–2018 | **BSc**, *Shahid Beheshti University*, Tehran, Iran, *17.17/20*. <br> Computer Engineering - Software |

## Interests

Software Engineering

Machine Learning

Data Science

## Publications

**2020** **Safe and Private Forward-Trading Platform for Transactive Microgrids**, ACM Transactions on Cyber-Physical Systems 5 (1), 1-29.
Scott Eisele, *Taha Eghtesad*, Keegan Campanelli, Prakhar Agrawal, Aron Laszka, Abhishek Dubey

**2020** **Adversarial Deep Reinforcement Learning based Adaptive Moving Target Defense**, International Conference on Decision and Game Theory for Security (GameSec'20).
*Taha Eghtesad*, Yevgeniy Vorobeychik, and Aron Laszka

**2020** **Blockchains for Transactive Energy Systems: Opportunities, Challenges, and Approaches**, Computer 53 (9), 66-76.
Scott Eisele, Carlos Barreto, Abhishek Dubey, Xenofon Koutsoukos, *Taha Eghtesad*, Aron Laszka, Anastasia Mavridou

**2020** **The Hackers Viewpoint: Exploring Challenges and Benefits of Bug-Bounty Programs**, 6th Workshop on Security Information Workers.
Omer Akgul, *Taha Eghtesad*, Amit Elazari, Omprakash Gnawali, Jens Grossklags, Daniel Votipka, Aron Laszka

**2020** **Cyber-attacks and mitigation in blockchain based transactive energy systems**, Conference on Industrial Cyberphysical Systems (ICPS'20).
Carlos Barreto, *Taha Eghtesad*, Scott Eisele, Aron Laszka, Abhishek Dubey, Xenofon Koutsoukos

**2020** **Mechanisms for Outsourcing Computation via a Decentralized Market**, International Conference on Distributed and Event-Based Systems (DEBS'20).
Scott Eisele, *Taha Eghtesad*, Nicholas Troutman, Aron Laszka, Abhishek Dubey

## Work Experience

**Sep'18– present**    **Research Assistant**, *University of Houston*, Houston, TX.
Working on multiple projects such as Machine Learning, Blockchains, Computer Security, Energy System Efficiency in *Resilient Networked Systems Laboratory*. My responsibilities include mentoring students and publishing academic papers.

**Sep'17– Jul'18**    **Full Stack Software Engineer**, *Hamisystem Sharif*, Tehran.
My responsibilities include design and development of MCI's Portals, Web Applications, and Mobile Application. Also, I was responsible for development of E-Government's Web Portal, and Mobile Application.

**Sep'16– Nov'16**    **Software Engineering Intern**, *Ghadir*, Tehran.
Design and development of a central authentication and authorization server based on bioinformatic features for the purpose of individual identification in E-Government.

## Projects

### PhD Projects

**Blockchains for Transactive Energy**.
Due to rapid growth in renewable energy resources and improvements in battery technology, power grids are undergoing major changes, which create significant management and control challenges. To tackle these challenges, decentralized solutions are needed, which can support the evolution of electrical power distribution systems. My responsibilities include implementation of a TES market based on the Ethereum Smart Contracts.

**Bug-Bounty Programs**.
Many organizations and companies have recently chosen to use bug-bounty programs (also known as vulnerability reward programs), which allow outside security experts to evaluate the security of an organizations products and services and to report security vulnerabilities in exchange for rewards. My responsibilities include conducting interviews with bug-bounty hunters, compiling, and aggregate the interviews in order to achieve a better understanding of this market.

**Machine Learning for Computer Security**.
Designing safe and attack resilient software with the help of artificial intelligence and machine learning. This includes modeling the real world systems as an adversarial game, and using multi-agent reinforcement learning for solving the proposed game.

**Computer Vision for Passenger Detection**.
Transit authorities currently rely on questionnaires and self reported information to analyse the public transit routes. The aim of this project is to detect the passengers aboard a public transit vehicle using cameras and perform source/destination analysis. This information helps the transit authorities to further improve their schedule and planning. My responsibilities include creating a detection/tracking dataset based on transit vehicle camera, train machine learning models on the dataset, and deploy the framework on the transit agency's infrastructure.

### BSc Project

**SunHAS**, *Home Automation System with 802.11 Mesh*.
My responsibilities include design and development of a home automation system protocol based on low priced ESP8266 and Raspberry Pi to be used for household energy use optimization *(NodeJS, C)*

## Mini Projects

**Codebaz**.
Online judge for teaching programming to highschool students (PHP)

**Social Media Crawler**, *SunCrawlers*.
A set of crawlers for Instagram, Twitter, Facebook, (Java, Neo4J, Python, ELKStack)

**Transport Layer Simulator**, *SunTLS*.
A transport layer simulator for developing various error correction and sequencing schemes in computer networks. (Java)

**AiChallenge Judge**, *SunJudge*.
A judge for running Shahid Behehsti AiChallenge (Java, Spring, Docker). This includes a solution for automating the setup, execution, and reporting of AI teams playing with each other.

**Job Search Engine**.
Search engine for jobs based on 25 Iranian job bulletins (Java, Lucene, Spring, Android)

**DBLP Visualizer and Ranker**.
Ranking authors and co-authors in DBLP and visualizing them, based on PageRank(PR) algorithm and D3.js (Java, JS)

**Secure File Storage Cloud**, SunDrop.
A scalable solution for secure transfer and storage of user files (Java, Spring, Docker)

**Job Finding Social Network**, SunBook.
A social network for enterprise job finding like linkedin (Java, Spring)

## Computer Skills

**Machine Learning**, *Python*, Tensorflow, Numpy, Scipy, CV2.
**Micro Controllers**, *Assembly, C, C++*, ARM, AVR.
**Hardware Design**, *FPGA*, Verilog, VHDL*(Familiar)*.
**.Net**, *C#*, ASP.
**Java**, *J2SE, J2EE*, Spring, Hibernate.
**JavaScript**, *NodeJS, ExpressJS*, AnguarJS, ReactJS*(Familiar)*, jQuery.
**RDBMS**, *MySQL*, MS SQL Server.
**NoSQL**, *Cassandra, Redis*, Neo4J, MongoDB.
**Computer Networks**, *CCNA*, CEH.
**Search Engines**, *Lucene*, Nutch, Elastic Search.
**Linux**, *LPIC-1*, Ansible, Slurm, Docker, Kubernetes*(Familiar)*.
**Windows**, *MCSA*, ICDL.
**Miscellaneous**, *Git*, LaTeX.

## Organizations

Oct'21–present  **ACM**, *Association for Computing Machinery*, Professional Member.

Sep'21–present  **IEEE**, *Institute of Electrical and Electronics Engineers*, Student Member.