Hossein Keipour

Telecommunication Engineer

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▪ EDUCATION

- Second M.Sc. Telecommunications Engineering **2019 – Jan 2022**

- Blekinge Institute of Technology (BTH), Karlskrona, Sweden

  ✓**Interested topics:** Machine Learning from cloud-to-edge, Federated Learning, IoT, Cyber security

- **Thesis at RISE Research Institute:** "Blackhole Attack Detection in Low-Power IoT Mesh Networks Using Machine Learning Algorithms"

- **Supervisors:** Prof. Dragos Illie, Dr. Niclas Finne, and Prof. Thiemo Voigt.

- First M.Sc. Telecommunication Systems Engineering **2009 – 2014**

- **Thesis:** "Change detection in Multi-temporal Images obtained from Synthetic Aperture Radar using Hidden Markov Random Fields"
- **Supervisor:** Prof. Ali Shahzadi, Tehran Azad University, Iran

- B.Sc. Electrical and Electronic Engineering **2003 – 2008**

- **Thesis:** "Design and Simulation of Low Frequency Antennas"
- **Supervisor:** Prof. Iman Ahadi Akhlaghi, Sadjad University of Technology, Iran

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▪ REASEARCH AND WORK EXPERIENCE

- Volunteer, Prof. Siamak Khatibi's D-Lab at BTH University, *Karlskrona, Sweden* **2019 - 2021**

- ✓ Eye tracking application
- ✓ Ultraviolet wave applications (Feasibility study)

- Telecommunications Engineer, Ashna Samane Co., Remote sensing, *Tehran, Iran* **2018 - 2019**

- ✓ Optimizing image processing algorithms based on Machine Learning techniques

- Telecommunications Engineer, Iran Solar Co., *Tehran, Iran* **2012 - 2014**

- ✓ Network maintenance and debugging
- ✓ Technical member of quality assurance (QA) unit
- ✓ Expertise on iDirect satellite link equipment
- ✓ Writing technical documentations
- ✓ Designing and implementing test scenarios for evaluate network availability

- Teaching Assistant, Azad University, *Tehran, Iran* **2011 - 2012**

- ✓ MATLAB, OPNET Network Simulator

- Research and Development assistant, *Parstel Co, Tehran, Iran* **2010 - 2012**

- ✓ Continuous product integration and deployment (CI/CD)
- ✓ Product Trainer

▪ Publications and Honors

- **H. Keipour**, S. Hazra, N. Finne, T. Voigt, "Generalizing Supervised Learning for Intrusion Detection in IoT Mesh Networks", The first International Conference on Ubiquitous Security, Guangzhou, China, 2021. (Accepted)
- N. Finne, J. Eriksson, T. Voigt, G. Suciu, M. Sachian, J. Ko**, H. Keipour**, "Multi-level Data Trace Generation with the Cooja Simulator", 17th International Conference on Distributed Computing in Sensor Systems (DCOSS), 2021.
- **H. Keipour**, A. Shahzadi, A. Lotfi, " Change detection in Multi-temporal Images obtained from Synthetic-aperture Radar using Hidden Markov Random fields ", the 7th National Electrical & Electronic Engineering Conference, Azad University of Aliabad, Iran, 2014.

- Received **scholarship** from BTH University for excellence in courses (2020)
- National Organizations for Development of Exceptional Talents School (**NODET**-Sampad)

▪ Related Courses

- **Network and System Security (Score A)**
  - ✓ Cryptography methods
  - ✓ System Integrity Verification programming via Python
  - ✓ Installing and operating an Intrusion Detection System (IDS) using Metasploit and Snort
  - ✓ Installing and operating a VPN system (strongSwan)
  - ✓ Configuring a firewall
  - ✓ Creating and administrating digital certificate network system
- **Statistical Pattern Recognition (Score: 19 out of 20)**
- **Digital Signal Processing (Score: 17.5 out of 20)**
- **Stochastic Processes**
- **Mathematical Statistics (Score A)**
- **Capacity Analysis**
  - ✓ Queueing theory and applications
  - ✓ Queuing Systems
- **UNIX and Linux (Score B)**
  - ✓ Apache virtual hosts
  - ✓ Script programming in bash
  - ✓ RegEx
- **Advanced Python programming**
  - ✓ Testing software and program comprehension
  - ✓ A simplified client-server solution for file management
- **Research Methodology (Score A)**
  - ✓ Mini-SLR on Safety of Autonomous Vehicle based on ML techniques.
  - ✓ Conducting a proposal for Lane Detection in Autonomous Vehicle based on ANFIS and Fuzzy- Logic
- **Cybersecurity and the Internet of Things – Online Course**
- **Machine Learning – Online Course, Stanford University, Andrew NG.**
- **Introduction to TensorFlow for AI, ML, and DL – Online Course**

▪ Skills

Machine Learning (ML), Artificial Intelligence (AI)----------

Python, MATLAB, R ----------

TensorFlow, Keras ----------

Git ----------

Linux and Unix----------

Contiki-NG, Cooja ----------

NVIDIA Jetson Nano ----------

C, C++ ----------

Linux and Unix----------

CCNA, OPNET, Packet tracer, Wireshark ----------

Team Working----------

▪ LANGUAGES

English: Fluent
(2019) IELTS score 7

Swedish: A2

Persian: Mother tongue

▪ REFFERENCES

Professor Siamak Khatibi
Department of Technology and Aesthetics
Blekinge Institute of Technology, Karlskrona, Sweden
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Professor Thiemo Voigt
Department of Information
Technology, Division of Computer Systems
and
RISE Research Institute, Kista, Stockholm
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