

# Iman Tabrizian

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## EDUCATION

### UNIVERSITY OF TORONTO

MASc IN ELECTRICAL AND

COMPUTER ENGINEERING

2019 - 2020 (Expected) | Tehran, Iran

### AMIRKABIR UNIVERSITY

BS IN COMPUTER ENGINEERING

2014 - 2018 | Tehran, Iran

Cum. GPA: 17.97 / 20

## RESEARCH INTERESTS

Internet of Things

Cloud Orchestration

Machine Learning

## LINKS

Github:// [Tabrizian](#)

LinkedIn:// [tabrizian](#)

StackOverflow:// [iman](#)

## SKILLS

### PROGRAMMING

Over 5000 lines:

Java • Python • Javascript

Android • Node.js

C • C++ • VHDL • PHP

Over 1000 lines:

CSS • Assembly

Familiar:

MySQL • Verilog • MongoDB

### FRAMEWORKS

Kubernetes • Docker • Swarm

Kaa IoT Platform

Prometheus •

OpenStack • Open vSwitch •

Mininet • Hapi.js • Vue.js

## AWARDS

- Selected to Participate in Facebook PyTorch Scholarship
- top 10% in terms of cumulative G.P.A (2018)
- Offered direct admission to continue graduate studies (2018)
- Eligible to choose second major (2018)
- Ranked 1<sup>st</sup> among all entrance university students in 14<sup>th</sup> Amirkabir ACM-ICPC (2014)
- Top 0.7% in the national university entrance exam (2014)

## RESEARCH & DEVELOPMENT EXPERIENCE

### AUT IOT LABORATORY | RESEARCHER & DEVELOPER

Jan 2016 – Nov 2016 | Tehran, Iran

- Experimenting with Kaa to provide a Building Automation solution. This project used nRFs for providing connectivity for sensors and used Raspberry Pi as the gateway which connected to the internet.
- Development of an IoT platform with the ability to support logging, event triggering, scenario creation. It was based on the MQTT protocol for the reliable and bidirectional communication between IoT devices. Under supervision of **Prof. Bahador Bakhshi**

### ANDISHE FARTAK AMIRKABIR | DEVELOPER OPERATIONS

September 2018 – December 2018 | Tehran, Iran

- Setup a CI / CD pipeline for automatic deployment to Kubernetes using drone.io
- Migrated all of the web applications to Kubernetes
- Setup a 3 node Kubernetes Cluster
- Setup of Rook as the storage orchestration
- Modification of CoreDNS configuration to deal with enterprise proxy

### FARZAN FAN ANDISH FARDA | RESEARCHER & DEVELOPER

Jun 2016 – December 2018 | Tehran, Iran

- Development of a product for remote management of 250 welding robots for IKCO - leading car company in Iran. The solution that we proposed simplified the provisioning process extremely and helped them increase the number of welding robots in each production line.
- R&D for development of an IoT based assembly platform which eased the production of hard to assemble products. This platform used MQTT as the messaging broker and Node.js as the backend providing restful web services for things connecting to them.

## PROJECTS

### GENORCH | PYTHON

Development of a generic orchestration platform with the ability to auto scale the infrastructure of an application based on the user defined criteria. It is written extremely modular and currently supports OpenStack. It is an open source project you can view the source code:

[github.com/genorch/orchestration](https://github.com/genorch/orchestration) It was tested on SAVI (testbed of University of Toronto).

### AN AUTO-SCALER FOR DOCKER SWARM | PYTHON

Final year dissertation

Developed an auto-scaler for Docker Swarm with support for any criterion. This project used Prometheus as the monitoring and time-series data collection. Acted upon the alertmanager notifications and scaled the Swarm Cluster upward/downward. You can view the project in [here](#).

### BAMBOO | NODE.JS

Bamboo is an IoT platform whose architecture is based on microservices. I was the architectural designer of bamboo and how components should be divided. It is using MQTT message broker for connectivity. You can find out more about it [here](#).

## LANGUAGES

English: professional working proficiency (TOEFL iBT 107)  
Persian: Native proficiency

## TEACHING

- Teaching Assistant 3x
- Instructor of Programming with C++ at Rouzbeh High School for 3 years.

### IRAN METRO | ANDROID

A transportation application for Iran subway system. It currently has more than 20,000 active users. It was selected as the BESTS APP of THE WEEK by cafebazaar (Iranian Android Market) when it was launched.

### MERGER | NODE.JS

This project was developed based on the request from the ICT of Amirkabir University of Technology. **Merger** fetches data from the different academic sources namely, Elsevier, IEEE and CrossRef, merges this data into a unified format and converts them to appropriate database models.

## EXTRA CURRICULAR ACTIVITIES

### OPENIOT SUMMIT NORTH AMERICA | SPEAKER

2018 | Portland, Oregon

I was invited to speak at OpenIoT Summit North America about On the Air Firmware Update Using MQTT.

### UNDERGRAD TALKS | SPEAKER

2018 | Amirkabir University of Technology

I had a 40 minutes talk with the title **What is Cloud Orchestration?**. This presentation included the current approach to cloud orchestration and presentation of some infrastructure as code templates.

### 8TH LINUX FESTIVAL | VIRTUALIZATION WORKSHOP

2017 | Amirkabir University of Technology

I was the instructor about the virtualization technologies in general and how to use Docker specifically for containerization.

### NODE.JS SUMMER COURSE | INSTRUCTOR

Summer 2017 | Computer Department Scientific Committee

Teaching Node.js basics from the ground to web application and bot development.

### 7TH LINUX FESTIVAL | LINUX BASICS PRESENTER

2016 | Amirkabir University of Technology

I had a 20 minutes talk about code editing in Linux and about best practices in code editing.

## REFERENCES

### BAHADOR BAKHSHI | ASSISTANCE PROFESSOR

Amirkabir University of Technology, Department of Computer Engineering and Information Technology

Email: bbakhshi@aut.ac.ir

### MEHDI DEHGHAN | PROFESSOR

Amirkabir University of Technology, Department of Computer Engineering and Information Technology

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### MASOUD SABAEI | ASSOCIATE PROFESSOR

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