# Sina Kashipazha

## Personal Data

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## Education

**B.Sc In Computer Engineering with Concentration in Software** — **Tehran, Iran**
University of Tehran — 2012 - 2017

## Professional Experience

- **Syntech Research Center**
  - Parax Electric Car — Nov 2018 - present
    **Lead Software Engineer**, designed and implemented cloud system which:
    - Receive bulk of encrypted data from cars
    - Load balance received data between multiple cache container
    - Use Reinforcment Learning to select next caches ????
    - Show cars data to end user in real-time ????
    - Use microservices architecture to implement above services

- **University of Tehran**
  - Computer Network Lab — Jan 2017 - Jan 2019
    **Technical Staff,** Network protocols, Router and MM-Wave Characterization
    - Hands on Experience in using Router, Switch and SDN enabled equipments
    - Hands on Experience in using floodlight SDN controller and mininet.
    - Developed instructions for computer network lab.
    - Designed and implemented vanet simulation tool set to compare various cache placement policies and learning alghorithms.
    - Designed fuzzy SDN controller that balanced load between switch using fuzzy logic.
    - Dockerized hadoop and assess various task placement policies in regard to network.
  - The Institute for Research in Fundamental Sciences (website) ???? — July - Sep 2018
    **Technical Staff**, Devise solutions and tools ????
    - Designed and implemented a cloud based solution to run simulaotions remotely using Anaconda, JupyterLab and Docker
    - Designed and implemented a educational modules for computer network lab course
    - Designed and implemented a Markov chain, Monte Carlo, and multi-armed bandit Reinforcement Learning alghorithms

## Field of Interest

- Distributing switch flow between multiple controller in SDN networks
- File Placement in Distributed File Systems using Online Alghorithms
- Task Scheduling Policies in Cluster Computing
- Load Balance Application Layer Traffic using Layer Three Switch
- Content Distribution in Vehicular Social Networks
- Cloud Orchestration

## Technicals Skills

- **Network skills:**
  - **Expert:** Mininet, Floodlight Controller, Scapy
  - **Proficent:** Openflow protocol, SDN network
  - **Familiar:** GNS3 network simulator, Pox, MPLS, Segment Routing, Cisco switch
- **Cloud skills:**
  - **Proficent:** Docker, Docker-compose
  - **Fluent:** Hadoop
  - **Familiar:** Openstack, Ansible, Kubernetees
- **Frameworks and tools:**
  - **Expert:** Play Framework, Maven, Git
  - **Proficent:** Hibernate, Anaconda, Jupyterlab, Python data analysis libraries: NumPy, SciPy, Pandas, Matplotlib
  - **Familiar:** Spark, Node.js, HTML5, CSS
- **Programming languages:**
  - **Expert:** Java
  - **Proficent:** Python, C, JavaScript

## Research Experience

- **University of Tehran**
  - **Computer Network Labratory** Feb 2015 - Feb 2018
    Advisor: Prof. Ahmad Khonsari
    - **Thesis:** Reduction of Request Response in Hadoop Framework in regard to Network
    - **Thesis:** Update SDN Switch Routing table in response to Topology Change
    - **Thesis:** Cloud Based Copmuter Network Lab
- **Publications**
  - **Social-aware Mobile Road Side Unit for Content Distribution in Vehicular Social Networks** [abstract]

## Extracurricular Activity

- **Teaching**
  - **Computer Network Lab** (Fall, Spring) Jan 2017 - Jan 2019
- **Teaching Assistant (Graduate)**
  - **Advanced Computer network** (Fall) **EXCEPT: Fall 2017** Sep 2016 - Jan 2019
- **Teaching Assistant (Undergraduate)**
  - **Computer Network** (Fall, Spring) Jan 2016 - Jan 2019
  - **Operating System and Operating System Lab** (Fall,Spring) **EXCEPT: Fall 2016** Jan 2015 - Jun 2018
  - **Design and Implementation of Compiler** (Fall), Sep 2015 - Jan 2016
  - **Formal Languages and Automata** (Fall) Sep 2014 - Jan 2015

## Selected Projects

- **Analysis of a partially filled waveguide and waveguides discontinuity using MATLAB**
  Theory of Electromagnetic course
- **Design and Simulation of an 5.17 - 5.33 VCO Colpitts oscillator and a balanced mixer at IEEE802.11a/b/g Standard using ADS in 0.18 um technology**
  Communications Circuits course
- **Design and Simulation of high performance low power fully differential telescopic cascade amplifier using HSPICE and ADS in 0.18 um technology**
  Electronics III course
- **Design and simulation of C-band Substrate Integrated Waveguide directional coupler Using HFSS**
  Microwave Laboratory course
- **Simulation of Digital Modulation Methods (PSK, FSK, ASK, QAM) via MATLAB**
  Digital Communications Laboratory course
- **Simulation of an OFDM and a MIMO System via MATLAB**
  Wireless Communication course