

Sina Kashipazha

PERSONAL DATA

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EDUCATION

B.Sc In Computer Engineering with Concentration in Software
University of Tehran

Tehran, Iran
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 Reinforcement 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 algorithms.
- 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 simulations 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 algorithms

FIELD OF INTEREST

- Distributing switch flow between multiple controller in SDN networks
- File Placement in Distributed File Systems using Online Algorithms
- 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
 - **Proficient:** Openflow protocol, SDN network
 - **Familiar:** GNS3 network simulator, Pox, MPLS, Segment Routing, Cisco switch
- **Cloud skills:**
 - **Proficient:** Docker, Docker-compose
 - **Fluent:** Hadoop
 - **Familiar:** Openstack, Ansible, Kubernetes
- **Frameworks and tools:**
 - **Expert:** Play Framework, Maven, Git
 - **Proficient:** Hibernate, Anaconda, Jupyterlab, Python data analysis libraries: NumPy, SciPy, Pandas, Matplotlib
 - **Familiar:** Spark, Node.js, HTML5, CSS
- **Programming languages:**
 - **Expert:** Java
 - **Proficient:** Python, C, JavaScript

RESEARCH EXPERIENCE

- **University of Tehran**
 - **Computer Network Laboratory** 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 Computer 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

- **Freelancer ????:**
 - **Trip Assistant:** Telegram bot who List Airlines, Trains, buses, and Hotels available seats (or rooms) from multiple sources.
 - **Instagram Follower:** Follow, Unfollow users automatically in order to gather follower.
 - **Java class loader:** Modify Java Class loader to load classes from encrypted jars at runtime.
 - **Run Encrypted Executable:** Decrypt byte code in memory, make it executable and run it from there using pure C and Linux Kernel System Calls.
- **Hobby:**
 - **Quote manager:** Cloud system to store my favorite verse, quote, book info, and summary.
 - **Tiny Controller:** Implemented ??? Openflow Controller
 - **Digistyle:** Write Javascript code to find lowest price clothes on Digistyle site.
 - **TextBook RSA:** Simple asymmetric encryption algorithm implementation.
- **Course projects :**
 - **Smart parking:** Connecting Hardware, Mobile app and Cloud server to show empty parking to users.
Internet Engineering Course
 - **TCP over UDP:** Implement portion of TCP protocol over UDP socket with features like Guarantee data integrity, Congestion Control, and Connection using Java programming language.
Computer Network Course
 - **Http Proxy:** Cache GET method of users http requests in order to reduce response time.
Computer Network Course
 - **todo Nat,Pat, load balancer floodlight**
Computer Network Lab
 - **Hardware Design:** Implement portion of MIPS CPU's instruction set using Verilog Language and FPGA.
Computer Architecture Lab
 - **Micro Bluetooth:** Control Step motor with Android App through bluetooth.
Microprocessor Course
 - **System Call:** Add System Call to Linux OS to List process PIDs.
Operating System Course
 - **Steganography:** Concealing a low resolution picture in high resolution picture using MATLAB.
Signal and Systems Course