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, designe and implementation of cloud system which:
    - Receive bulk of encrypted data from cars
    - Load balance received data between multiple cache container
    - Use Reinforcment Learning to select next cache for data extractation
    - 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.
    - Develope instructions for computer network lab.
    - Designe and implemention of vanet simulation tool set to compare various cache placement policies and learning alghorithms.
    - Designing 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, Designe and implemention of:
    - a cloud based solution to run simulaotions remotely using Anaconda, JupyterLab and Docker.
    - a educational modules for computer network lab course.
    - 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

- Freelancer:
  - **Trip Assistant:** Telegram bot who List Airlines, Trains, buses, and Hotels available seats (or rooms) from multiple sources.

- **Instagram Follower:** Following, Unfollowing users automatically in order to gather follower.
- **Java class loader:** Modifing Java Class loader to load classes from encrypted jars at runtime.
- **Run Encrypted Executable:** Decrypt byte code in memery, make it executable and run it frome 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:** Implementatin of sub ???? Openflow Controller
  - **Digistyle:** Write Javascript code to find lowest price clothe on Digistyle site.
  - **TextBook RSA:** Simple asymmetric encryption algorithm implementation.

- Course projects :
  - **Smart parking:** **Internet Engineering Course**
    Connecting Hardware, Mobile app and Cloud server to show empty parking to users.
  - **TCP over UDP:** **Computer Network Course**
    Implement portion of TCP protocol over UDP socket with features like Gurantee data integrity, Congestion Control, and Connection using Java programming language.
  - **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 ans Systems Course