Maziyar Nazari

1300 30th Street, Apt D5-13, Boulder, CO

+1 (720) 341 0322

Maziyar.Nazari@COLORADO.EDU

linkedin.com/in/maziyar-nazari-829978105

EDUCATION

August 2018 -- Present

Ph.D. degree in Computer Science

Department of Computer Science, University of Colorado Boulder

- Related Courses: DevOps in the Cloud, Advanced Operating System
- GPA: 4/4
- Adviser: Prof. Eric Keller

2013 -- 2018

Bachelor's degree in Information Technology

Department of Electrical and Computer Engineering, University of Tehran

- GPA: 16.76/20

RESEARCH INTERESTS

- Computer Networking, Operating Systems, Linux Kernel, Cloud Computing, Cgroups and Containers, Software Defined Networking and Serverless Computing
- Aiming to design and build networked systems or change the existing systems to be more reliable, efficient, scalable, flexible and easy-to-monitor

PROFESSIONAL EXPERIENCE

May 2020 -- August 2020

Software Engineer Intern

Salesforce, Louisville, CO, US

- Implementing a proxy server for both REST and gRPC calls, intercepting REST and gRPC request/responses to generate stubs for Mocking purpose
- Software Engineer Intern at Data Manager Setup team, C360 product

August 2018 -- May 2020

Graduate Research Assistant

Network and Security Group, University of Colorado Boulder, Boulder, CO, US

- S2OS: Multi-institute project funded by NSF and VMWare
- http://success.cse.tamu.edu/S2OS/

2016 -- 2018

Teaching Assistant

University of Tehran, Tehran, Iran

- Introduction to Computing systems and Programming (Skills needed: C programming, LC3 Assembly, Digital Logic Circuits)
- Operating Systems and Operating Systems Lab (Skills needed: C Programming, Kernel Programming)
- Computer Networks (Skills needed: SDN, Floodlight, Mininet)
- Computer Architecture (Skills needed: Verilog HDL, Mealy & Moore state Machines, Design Datapath & Controllers)
- Artificial Intelligence (Skills needed: Python, Algorithms like uninformed search, heuristics, FOL, Graph, CSP, etc)

Summer 2016

Internship

Social Network Lab, University of Tehran, Tehran, Iran

- Implementing a text mining program to extract time from news' text and create a news timeline

PUBLICATION

Shimmy: Shared Memory Channels for High Performance Inter-Container Communication

USENIX Workshop on Hot Topics in Edge Computing (HotEdge 19), USENIX Association, 2019.

- Marcelo Abranches*, Sepideh Goodarzy*, Maziyar Nazari*, Shivkant Mishra, and Eric Keller.
- Contributed equally to the project

(Poster) Efficient Microservices with Elastic Containers

Proceedings of the 15th International Conference on emerging Networking EXperiments and Technologies (CoNEXT)

- Greg Cusack*, Maziyar Nazari*, Sepideh Goodarzy, Prerit Oberai, Eric Rozner, Eric Keller, Richard Han
- Project Co-lead

SELECTED PROJECT

Computer Network/Systems

Toccoa: Cloud-Scale Packet-Level Network Analytics in Software

In submission to a top tier venue

- Design a general and flexible, packet-level, network analytics system on top of P4 switches

Rootkit Module in Linux

Advanced Operating Systems course project, Department of Computer Science, University of Colorado Boulder

- Develop an LKM to intercept Linux kernel predefined syscall and change "ls" command functionality (Kernel version: 4.x)

Microservice & Version Updating

DevOps in the Cloud course project, Department of Computer Science, University of Colorado Boulder

- Build and run a simple Flask app, using Vagrant, Docker, Ansible, Etcd, Registrator, Confd, Nginx, Bash script and automate the version update

Virtual Machine Live Migration

B.Sc. final project, Department of Electrical & Computer Engineering, University of Tehran

- Virtual machine live migration using OpenStack, NFS and Vsphere.

Module in Floodlight

Computer Networks Lab course project, Department of Electrical & Computer Engineering, University of Tehran

- Adding a module to floodlight controller to exchange key with each new host and register it as a valid host in the network

Web Proxy

Computer Networks course project, Department of Electrical & Computer Engineering, University of Tehran

- A web proxy written in Python, working with HTTP protocol, with URL caching, and an admin interface

Bit Torrent

Operating Systems course project, Department of Electrical & Computer Engineering, University of Tehran

- A multi-user p2p file-sharing system using Linux system calls and socket programming

Map-Reduce

Operating Systems course project, Department of Electrical & Computer Engineering, University of Tehran

- Count the number of a specific repeated word in a large file using Map-Reduce, Multiprocessing and Pipes in Linux

Synchronization

Operating Systems course project, Department of Electrical & Computer Engineering, University of Tehran

- Validate and update bank transaction files using shared memory, and mutex lock

Kernel Programming (Kernel version 2.6.x)

Operating Systems Lab course projects, Department of Electrical & Computer Engineering, University of Tehran

- Add 3 new system calls to sort and analyze running processes, using kernel linked list
- add a new semaphore to the kernel, having Priority Inheritance Protocol to avoid Priority Inversion

Applications, Software Engineering, Internet Engineering

Library System

Object Oriented Analysis and Design course project, Department of Computer Science, University of Colorado Boulder

- Library workflow automation, single-Page web application implemented in Java, using HTML, CSS, Boorstrap, AngularJS, JavaEE, Maven, Git, Tomcat server
  https://github.com/Maziyar-Na/OOAD-2019/tree/master/Final%20Version/Library

Airplane Reservation Web App

Internet Engineering course project, Department of Electrical & Computer Engineering, University of Tehran

- An airplane reservation web application, using MVC, Object Oriented Patterns, HTML, CSS, JS, Bootstrap, AngularJs, JSP, JavaEE, Socket Programming in Java, Tomcat, Log4J, JUnit, Git, Maven, Docker, Kubernetes, Minikube, HSQL DB, Session State, and handling SQL Injection, CSRF issues, and Access Control
- https://gitlab.com/maziar/UT.IE96

Customs House Software

System Analysis & Design course project, Department of Electrical & Computer Engineering, University of Tehran

- An application related to Customs house procedures, Design (having prototype, Domain Modeling, System Sequence Diagram, Class Diagram, etc), implementation(C#, SQL Server database), Test(Unit Test, Integration Test)

Algorithm & Artificial Intelligence

Prediction and characterization of application power use in a high-performance computing environment

Machine Learning course project, Department of Computer Science, University of Colorado Boulder

- Re-implementing the paper and improving the results by using feature engineering techniques and adding LSTM

Resource Management in Cloud Computing UsingMachine Learning: A Survey

In submission, 2019

- Sepideh Goodarzy*, Maziyar Nazari

Genetic Algorithm

Artificial Intelligence course project, Department of Electrical & Computer Engineering, University of Tehran

- An algorithm using Genetic approach to solve a minimization problem

Dots & Boxes

Artificial Intelligence course project, Department of Electrical & Computer Engineering, University of Tehran

- An agent playing Dots & Boxes game using alpha beta pruning algorithm written in Python.

Map

Data Structure course project, Department of Electrical & Computer Engineering, University of Tehran

- Map of Tehran, having zoom function and find shortest path, written in Python

AWARDS & HONORS

July 2019 **USENIX ATC 2019 Grant Sponsored by NSF and VMWare**

2019 USENIX Annual Technical Conference, Renton, WA, USA

Feb 2019 **Best Prize in Entrepreneurship Track**

T9Hacks Hackathon, University of Colorado Boulder

August 2018 **Early Career Professional Development Fellowship**

Department of Computer Science, University of Colorado Boulder

Feb. 2018 **Best Undergraduate Project Award**

Department of Electrical and Computer Engineering, University of Tehran

- Build and deploy live migration in cloud environment, using OpenStack

2015 -- 2016 **Ranked 4th among All Information Technology Students**

Department of Electrical and Computer Engineering, University of Tehran

Summer 2013 **Ranked 790th in Nationwide University Entrance Exam for B.Sc. Program**

Among More than 350,000 Participants i.e. in Top 0.2%

SKILLS

Programming Skills

Languages

- C++ – Guru
- C, Java, Python, Bash Scripting, C#, SQL, MATLAB, JS, Verilog, VHDL

Web Programming & Databases

- HTML, CSS, JS, Angular, Bootstrap, JQuery, MySql, MSSQL, Java EE, Tomcat, JSP, Hibernate, JUnit, Log4J

DevOps

- Vagrant, Docker, Kubernetes, Docker Compose, ETCD, Registrator, CONFD, Ansible, Nginx, Prometheus, OpenStack, Kolla Project

Software Defined Network

- Mininet, Floodlight, RYU

Project Management/Version Control

- Maven, Git

Operating Systems, Tools, IDEs

Operating Systems:

- Windows, Linux, MacOS

Tools & IDEs:

- Visual Studio, Intelij IDEA, SQL Server, SQL Server Management Studio, Wireshark, OpenSSL, MATLAB, Modelsim, Quartus, Clementine, Pentahoe, Weka, Qlikview