Mojtaba Eshghie

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RESEARCH EXPERIENCE

2017 – SEPTEMBER 2019
MASTER

Second Part of Thesis
Evaluation of overhead of i-OAM Operations in Vector Packet Processing (VPP) using Container Networking, Supervised by Dr. Leonardo Linguaglossa at Telecom Paristech

First Part of Thesis
Load-balancing Scheme in 6TiSCH IoT Networks, M.Sc. Thesis, Supervised by Dr. Naser Yazdani

First thesis Paper Presented at 9th International Symposium on Telecommunications (IST2018)
"QUELL: LIGHTWEIGHT LOAD-BALANCING SCHEME FOR 6TISCH IOT NETWORKS"
DOI: 10.1109/ISTEL.2018.8661136

2016 – NOW
160 GIGABIT ROUTER PROJECT
Router and Switch Project of University of Tehran
This project was started back in early 2000s and Continued its way towards software routers and switches. Recently the project has gained support of Iran's National Telecommunication Infrastructure Company and Iran's ICT Research Institute. In last few years we started using FRR and lately VPP. I have worked as control-plane and data-plane programmer in this project. My contribution to this project includes:

- Coding DHCP server for National Router
- Coding IPSec for National Router
- Conducting several tests in real-world scenarios in Iran's National Information Network (NIN) inside National Telecommunication Infrastructure Company server-rooms
- Documenting the developer materials and Setting Up the Website

EDUCATION

JUNE 2019—SEPTEMBER 2019
Internship Program at Technical University of Munich and Télécom Paristech's "Artificial Intelligence for Performance" (AI4Perfromance) Project
Télécom ParisTech
https://www.net.in.tum.de/projects/ai4perf/

SEPTEMBER 2016–2019

M.SC. INFORMATION TECHNOLOGY ENGINEERING, UNIVERSITY OF TEHRAN

GPA: 16.65 / 20

SEPTEMBER 2011–JULY 2016

B.SC. COMPUTER ENGINEERING

GPA: 14.47 / 20

HONORS

2016

Top 0.01 Percent Place Among All Applicants for Master's Entrance Exam of Iran's Higher Education

Ranked 30 Among Approximately 40,000 Applicants

BOOKS

2014

Blue Python

The First and Most Popular Persian Python Programming Book

The PDF version of book has been sold more than 50,000 times in Persian online marketplaces

SELECTED ACADEMIC PROJECTS AT UNIVERSITY OF TEHRAN

2018

Distributed Implementation and Analysis of Shortest Path Algorithms Using Kompics Platform

Advisor: Dr. Fathiyeh Faghih

Course: Distributed Systems

2017

Flow-Based TSCH Scheduling Algorithm for 6TiSCH Networks

Advisor: Dr. Naser Yazdani

Course: Advanced Computer Networks

2017

Trends of Uberization in Iran

Project Head: Mojtaba Eshghie

Advisor: Dr. Fataneh Taghiyareh

Course: Information Technology Management

2016

Feasibility Checking of Using Android as National Car OS for Iran Khodro Company

Advisor: Dr. Naser Yazdani
Course: Advanced Operating Systems

2016

Survery of Fraud Detection in Online Advertisement

Advisor: Dr. Mahmoud Reza Hashemi
Course: Introduction to E-Business

FAMILIARITY WITH SIMULATORS AND TESTBEDS

- Vector Packet Proccessing (VPP) platform
- Data-Plane Development Kit (DPDK)
- OpenVSwith
- FRRouting
- Docker and LXC Containers
- Kubernetes
- Performance Monitoring Tools:
    - Linux perf utitliy
    - Valgrind (Callgrind)
- Network Performance Monitoring Tools:
    - iperf
    - nuttcp
        - currently working on a branch of nuttcp to support inter-container network throughput and latency tests using memif interfaces
- TinyOS
- Conitiki/Cooja Simulator
- OpenWSN
- Python 6TiSCH Simulator

SKILLS

C Programming
- Work as a System Programmer at National Router Project of University of Tehran
- Work as System Designer at AI for Performance project at Telecom Paristech
- Optimized Hashing structures using C
- GNU make utility

- Multi-threaded programming using pthreads library
- Experience with GDB for debugging real-world projects
- Experience with linux perf utility for program profiling

Python Programming
- More than 8 years of experience in programming using Python
- Data visualization using matplotlib
- Python multi-threaded programming
- Experience with PySpark
- Django framework

R Programming
- Data Visualization Using R and ggplot2
- Familiarity with statistical inference with R

Lua scripting
- Writing Lua scripts for Moongen packet generator

Deep Knowledge about Linux OS
- Experience with Linux device driver programming at National Router and AI4Perf projects
- Good knowledge about Linux internals
- Experience on creating many linux shell scripts for workflow automation

Experience with Project Management Tools and Technologies, including:
- Git
- Vagrant
- GNU Autotools

Computer Network Knowledge
- Experience with many deployments and tests for National Router project

Java Programming
- Experience with Kompics framework for creating distributed systems

Web-development Technologies
- Python Django Framework
- ReactJS
- MySQL and PHPMyAdmin
- HTML/CSS
- Wordpress

WORK EXPERIENCE

2017 – NOW

Data-plane and Control-plane system developer at National Router Project of Router Laboratory of University of Tehran

2014 – 2017

Full-Stack Web Developer
Work as freelance web developer

2014 – 2015

Search Engine Optimization
Optimization of more than 20 websites including website of Router Laboratory of University of Tehran

SELECTED COURSEWORK AND GRADES

SELECTED RELEVANT COURSE GRADES, GRADED OUT OF 20
- Advanced Computer Networks: 18.7
- Distributed Systems: 18.3
- Information Technology Management (ITM) (at University of Tehran): 19.3
- Advanced Operating Systems: 17.3

GRADUATE COURSES
- Advanced Computer Mathematics
- Performance Evaluation of Network Systems
- Advanced Computer Networks
- Advanced Operating Systems
- Advanced Algorithm Design
- Distributed Systems
- Ad-Hoc Networks