

Mohammad Hosein Nemati

DevOps Engineer

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koliber.ir [in ckoliber](https://in.ckoliber)
 Iran [ckoliber](https://github.com/ckoliber)

Education

Master of Computer Science

University of Tehran

Thesis: Automatic speech recognition in the air traffic control domain

Total GPA: 3.80/4

Sep 2021 – Aug 2024 (Expected)

Teharn, Iran

Bachelor of Computer Science

Kharazmi University

Last two years GPA: 3.46/4

Total GPA: 3.12/4

Sep 2016 – Jan 2021

Tehran, Iran

Diploma of Mathematics

Mandegar Alborz High School

Total GPA: 4/4

Sep 2012 – Aug 2016

Tehran, Iran

Areas of Interest

- High Performance Computing and Parallel Processing
- Artificial Intelligence and Machine Learning
- Deep Learning and Artificial Neural Networks
- Natural Language Processing
- Brain Signal Processing

Relevant Courses (Graduate courses are indicated by *)

• Digital Image Processing *	17/20	• Computer Graphics	20/20
• Natural Language Processing *	19.12/20	• Principles of Operating Systems	20/20
• Advanced Computation Theory *	18.5/20	• Principles of Computer Systems	20/20
• Advanced Theory of Algorithms *	14.75/20	• Principles of Logic and Set Theory	20/20
• Machine Learning *	18.45/20	• Compiler	20/20
• Artificial Intelligence	19.1/20	• Database	19/20

Licenses & Certifications

Brain Mapping Spring School

Certified Kubernetes Administrator (CKA)

Kubernetes Certified Application Developer (CKAD)

Docker - SWARM - Hands-on - DevOps

Cisco Certified Network Associate (CCNA)

National Brain Mapping Laboratory

Udemy

Udemy

Udemy

Tehran Institute of Technology

Apr 2023

Oct 2020

Aug 2020

Jun 2020

Nov 2016

Honors and Awards

- TODO: Master's inter university rank 2024
- Ranked 18st in the Iranian university entrance exam for the Master's Degree in Computer Science 2021

- TODO: Bachelor's inter university rank 2021
- Ranked top 1% among more than 190,000 students who participated in nationwide entrance examination of undergraduate studies in Iranian universities 2016

Technical Skills

Programming Languages	C/C++, C#, Java, JavaScript, TypeScript, Python, MATLAB, Erlang
Cluster Orchestrators	Docker, Kubernetes, Nomad, Slurm

Research Experience

Advanced Programming	Feb 2019 – Jun 2019
Prof. Arash Ahadi	Kharazmi University
<ul style="list-style-type: none"> • Teaching memory management in C, Object-Oriented paradigm in C (OOC) ↗ • Teaching basics of computer graphics and OpenGL programs in C ↗ • Graded and provided homework feedback for mentored students 	

Teaching Experience

Advanced Programming	Feb 2019 – Jun 2019
Prof. Arash Ahadi	Kharazmi University
<ul style="list-style-type: none"> • Teaching memory management in C, Object-Oriented paradigm in C (OOC) ↗ • Teaching basics of computer graphics and OpenGL programs in C ↗ • Graded and provided homework feedback for mentored students 	
Basic Programming	Sep 2018 – Jan 2019
Prof. Saeed Reza Kheradpisheh	Kharazmi University
<ul style="list-style-type: none"> • Teaching basic data-structures and algorithms in Java • Organized homeworks for mentored students ↗ 	

Work Experience

Shipup.net	May 2022 – Present (Full-time)
DevOps Engineer	Tehran, Iran
<ul style="list-style-type: none"> • Maintaining and refactoring old bare-metal infrastructure • Designing and architecting new cloud-based infrastructure • Automating full and differential and incremental backups (pgbackrest) • Setting up Grafana monitoring stack (LGTM - Loki, Grafana, Tempo, Mimir, Agent) • Writing Grafana dashboards and alerts using promQL, logQL • Provisioning entire new infrastructure using Terraform (IaC) • Managing multi-cloud resources for reducing the costs (Hetzner, AWS) • Using GitOps principle for CD (Continuous Deployment) • Writing Docker Swarm compose manifests • Setting up CI/CD using GitlabCI, Docker 	
University of Tehran	Jul 2022 – Jun 2023 (Part-time)
HPC Engineer	Iran, Tehran
<ul style="list-style-type: none"> • Setting up HPC cluster using Slurm Workload Manager & Pyxis • Setting up Slurm accounting and quota management • Provisioning entire cluster using Terraform (IaC) • Working with HPC containers (Nvidia Enroot, Nvidia Pyxis) 	
Pishgam Vira	Mar 2022 – Jun 2022 (Part-time)
DevOps Engineer	Iran, Tehran

- Implementing CI/CD for projects using GitHub Actions & Docker
- Provisioning deployment servers using Docker Swarm
- Automate release process using semantic-release

Mobtaker Darya

Full-stack Developer & DevOps Engineer

Nov 2019 – Jun 2022 (Full-time)

Iran, Tehran

- Maintaining and developing CCS project (Container Control System)
- Implementing CCS reports using Crystal Reports and SQL Server
- Developing Shaahin project (Cargo trucks traffic control)
- Implementing Shaahin web client using React.js
- Implementing Shaahin backend using Loopback.io, NodeJs, TypeScript, PostgreSQL
- Implementing CI/CD for projects using GitlabCI & Docker
- Provisioning deployment servers using Kubernetes
- Writing Kubernetes manifests and packaging the in Helm Charts
- Managing and coding entire infrastructure using Terraform (IaC)

TIS

Software Developer

Mar 2019 – Oct 2019 (Part-time)

Iran, Tehran

- Maintaining and refactoring MFD project (Managed-Funds System)
- Replacing Process360 with ProcessMaker as BPMS core
- Implementing new UI using React.js and TypeScript
- Implementing dynamic forms in client (Forms schema loaded from BPMS)

Farmeal

React Developer

Jun 2019 – Sep 2019 (Part-time)

Iran, Tehran

- Implementing food-shopping UI using React.js and TypeScript
- Interacting with backend GraphQL API's using Apollo Client
- Implementing CI/CD for project using GitlabCI & Docker

Self Employed

Full-stack Developer

Dec 2013 – Aug 2018

Iran, Tehran

- Socket programming in C & Erlang, implementing hole punching for P2P direct connections
- Implementing Desktop Chat Application using Qt, C++, QML
- Implementing Android Chat Application using Java, C (JNI), AndroidStudio
- Using FFMPEG to implement audio & video streaming using native API's and raw sockets

Notable Projects

Natural Language Processing

Prof. Bagher Babaali

Fall 2022

- Training N-Gram Language Model on Hamshahri v2 dataset (Persian Newspaper) and computing perplexity using NLTK [↗](#)
- Implementation of Hidden-Markov-Model from scratch in python (Baum Welch Algorithm, Viterbi Algorithm) [↗](#)
- Part-of-Speech Tagging using Hidden-Markov-Model [↗](#)
- Applying TF-IDF and LSA for Text Classification on Persica dataset [↗](#)
- Text Classification on Persica dataset using ParsBERT [↗](#)
- Part-of-Speech Tagging on Persian dataset using ParsBERT [↗](#)

Digital Image Processing

Prof. Hedieh Sajedi

Fall 2022

- Applying Geometrical Operation, Histogram Equalization, Filtering in Spacial and Frequency domain, and Morphological Operation using OpenCV [↗](#)

- Blast Cell Image Classification into Normal and Abnormal using a CNN Model [↗](#)
- CIFAR10 Classification using a Nested-Hierarchical Transformer (**NesT**) [↗](#)

Machine Learning

Fall 2022

Prof. Bagher Babaali & Prof. Hedieh Sajedi

- Implementation of perceptron from scratch using Python and NumPy and applying it on Polynomial Regression problem [↗](#)
- Training perceptron for Money Classification into Real and Fake classes [↗](#)
- Implementation of Linear-Discriminant-Analysis using Python and NumPy and applying it to reducing dimension and visualizing data [↗](#)
- Implementation of Principal-Component-Analysis using Python and NumPy and applying it to Face Image dataset compression and reconstruction [↗](#)
- Applying Logistic Regression for a binary classification task on Income dataset [↗](#)
- Applying K-Means clustering method on dataset and visualizing clusters [↗](#)
- Activity Recognition using Wearable Physiological Signal Features using Decision Tree, Random Forest, XGBoost, and SVM Classifiers [↗](#)
- Parkinson's Disease Detection using Speech Signal Features using Decision Tree, Random Forest, XGBoost, SVM, MLP, ELM, and Autoencoder [↗](#)
- Heart Disease Prediction from Health Indicators using Decision Tree, Random Forest, XGBoost, SVM, MLP, ELM, and Autoencoder [↗](#)

Advanced Computation Theory

Fall 2022

Prof. Majid Alizadeh

- Implementation of Davis Language interpreter in python [↗](#)
- Implementation of Davis Language encoder and decoder for Universal Programs [↗](#)

Operation Systems

Fall 2020

Prof. Saeed Reza Kheradpisheh

- Implementation of Cross Platform Async Socket Server (TCP, UDP) in C [↗](#)
- Implementation of Thread Pool and Process Pool design patterns in C using pthread library [↗](#)
- Implementation of Cross Platform IPC Tools (Semaphores, Shared Memories, Message Queues) in C [↗](#)

Compiler Design

Fall 2020

Prof. Somaye Arabi

- C Language JSON parser and packer library [↗](#)
- Mini C Language compiler using Lex and Yacc [↗](#)

Data Structures and Algorithms

Fall 2020

Prof. Somaye Arabi

- Postfix and Prefix parser using Java [↗](#)
- TypeScript Memoization library (NPM package) [↗](#)
- Huffman Compressor desktop application using C++, Qt, QML [↗](#)
- Implementation of Basic Data Structures (ArrayList, LinkedList, Stack, Queue, Deque) in C [↗](#)

Advanced Programming

Fall 2020

Prof. Keivan Borna

- Implementation of 2048 Game in Java [↗](#)
- Implementation of Maze Game in Java [↗](#)
- Implementation of Library Manager using Java, JavaFX [↗](#)
- Implementation of Govara Assets Manager using C++, Qt, QML [↗](#)

Chapar Messenger (ChaM)

Fall 2022

Open Source

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Languages

Persian	Native
English	Fluent (TOEFL : To be taken on November 13th)