

Mohammad Hosein Nemati

DevOps Engineer

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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)

Tehran, 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

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

Licenses & Certifications

Brain Mapping Spring School	National Brain Mapping Laboratory	Apr 2023
Certified Kubernetes Administrator (CKA)	Udemy	Oct 2020
Kubernetes Certified Application Developer (CKAD)	Udemy	Aug 2020
Docker - SWARM - Hands-on - DevOps	Udemy	Jun 2020
Cisco Certified Network Associate (CCNA)	Tehran Institute of Technology	Nov 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
<i>Prof. Arash Ahadi</i>	<i>Kharazmi University</i>
<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
<i>Prof. Arash Ahadi</i>	<i>Kharazmi University</i>
<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
<i>Prof. Kheradpisheh</i>	<i>Kharazmi University</i>
<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)
<i>DevOps Engineer</i>	<i>Tehran, Iran</i>
<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)
<i>HPC Engineer</i>	<i>Iran, Tehran</i>
<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*DevOps Engineer**Mar 2022 – Jun 2022 (Part-time)**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

Fall 2022

Prof. Hedieh Sajedi

- Applying Geometrical Operation, Histogram Equalization, Filtering in Spatial 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 [↗](#)

Published Projects

Chapar Messenger (ChaM)

Fall 2022

Open Source

- 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) [↗](#)
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Languages

Procrastination
Avoiding Responsibility
Sarcasm

Procrastination at an expert level
 Outstanding ability to avoid meetings and responsibilities
 Fluent in sarcasm and irony

References

World's Best Napper	International Association of Snoozers	2022
Most Creative Excuses	Academy of Procrastinators	2021
Gold Medal in Avoiding Responsibilities	Olympics of Slackers	2020