

# Mohammad Hosein Nemati

DevOps Engineer

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 Iran

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## Education

<b>Master of Computer Science</b> University of Tehran <i>Thesis: Automatic speech recognition in the air traffic control domain</i> Total GPA: 3.80/4	Sep 2021 – Aug 2024 (Expected) Teharn, Iran
<b>Bachelor of Computer Science</b> Kharazmi University <i>Last two years GPA: 3.46/4</i> Total GPA: 3.12/4	Sep 2016 – Jan 2021 Tehran, Iran
<b>Diploma of Mathematics</b> 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

<b>Brain Mapping Spring School</b>	National Brain Mapping Laboratory	Apr 2023
<b>Certified Kubernetes Administrator (CKA)</b>	Udemy	Oct 2020
<b>Kubernetes Certified Application Developer (CKAD)</b>	Udemy	Aug 2020
<b>Docker - SWARM - Hands-on - DevOps</b>	Udemy	Jun 2020
<b>Cisco Certified Network Associate (CCNA)</b>	Tehran Institute of Technology	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

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

## Research Experience

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

## Teaching Experience

<b>Advanced Programming</b>	Feb 2019 – Jun 2019
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<b>Basic Programming</b>	Sep 2018 – Jan 2019
<i>Prof. Saeed Reza Kheradpisheh</i>	<i>Kharazmi University</i>
<ul style="list-style-type: none"> <li>• Teaching basic data-structures and algorithms in Java</li> <li>• Organized homeworks for mentored students <a href="#">↗</a></li> </ul>	

## Work Experience

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

**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

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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

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