Mohammad Ghamari *Software Enginner*

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in Linkedin Profile   S Skype Account

📇 Profile

Experienced in machine learning, deep learning, and data science with a strong background in Python and data science libraries, such as TensorFlow and Keras, and also a Spring Boot developer with expertise in microservices architecture and database management. Skilled in designing and implementing scalable and reliable software systems, managing complex databases, and analyzing and interpreting large datasets.

🎓 Education

Hamedan University of Technology   Aug 2015 – Dec 2019
Bachelor of Science   Hamedan, Iran
Computer Engineering

Selected Courses: Computer Fundamentals and Programming │ Advanced Computer Programming │ Data Structures │ Designing Algorithms │ Database Design Principles │ Operating Systems │ Logic Circuits │ Computer Architecture │ Micro Processors │ System Analysis and Design │ Artificial Intelligence

GPA: 3.44/4.00

🔧 Skills

Machine Learning
- *Data Analysis & Preprocessing*
- *Data visualization*
- *Optimization*

Deep Learning
- *CNN Models*
- *RNN Models*
- *GAN Models*
- *Parallel neural networks*

Python
- *TensorFlow*
- *Scikit-learn*
- *Keras*

Java Core
- *OOP*
- *Design Patterns*
- *Collections*
- *Generics*
- *JavaFX*
- *Stream API*

Java Frameworks
- *Spring Boot*
- *Spring Data*
- *Spring Web*
- *Spring Security*

Programming Tools
- *Git*
- *Docker*
- *Maven*

IoT Devices
- *Raspberry PI*
- *Arduino*

Front-End Development
- *Dart*
- *Flutter*
- *Thymeleaf*

Database Management
- *Microsoft SQL Server*
- *PostgreSQL*
- *MySQL*
- *T-SQL*

Professional Softwares
- *Intelij IDEA*
- *DataGrip*
- *Pycharm*
- *MATLAB*

Moodle
- *Installation and configuration*
- *Maintenance*
- *User Management*
- *Moodle Web Service*

Virtualization
- *Vmware Workstation*
- *Vmware Esxi*

🗣 Teaching Experiences

Teaching Assistant   Hamedan, Iran
Advanced Computer Programming
Hamedan University of Technology │ Department of Computer Engineering │ Fall 2018

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Advanced Computer Programming
Hamedan University of Technology │ Department of Computer Engineering │ Fall 2017

📖 Publications

Cuffless Blood Pressure Estimation Using Chaotic Features of Photoplethysmograms and Parallel Convolutional Neural Network 🔗
Computer Methods and Programs in Biomedicine │ Nov 2022

A parallel deep framework to concatenate the machine-learned and chaotic indices of PPG signals in estimating the actual blood pressure values.PPG is a simple and low-cost method of measuring blood volume changes in the microvascular bed of tissue, and the CNNs are trained to estimate blood pressure based on features extracted from the PPG signals. The chaotic features of the PPG signals are used to improve the accuracy of the blood pressure estimation.

Tools and Methods: Deep Learning, TensorFlow, Keras, CNN Models, Parallel neural networks

🧠 Patents

Electronic Assistant for Reading Patterns of Handwoven Carpet
Patent number: 140150140003008626   Issued on Feb 2023   Status: pending
Inventors: Maryam Khodamoradi, Mohammad Ghamari, Masih Sarir

The patent provides a software and hardware solution that includes an application that can analyze and interpret the pattern, identifying the colors, shapes, and dimensions of the design. This invention aims to simplify the traditional manual process of pattern reading, reducing the time and effort required to create complex carpet designs. With the Electronic Assistant for Reading Patterns of Handwoven Carpet, carpet weavers can create intricate designs with greater ease and efficiency, allowing them to focus on their craft's artistic aspects.

Tools & Methods: Arduino, RGB LEDs, Electronic Circuits

🧑 Professional Experiences

Member of Intelligent Automation in Medical Centers Committee   2022 – present │ Hamedan, Iran
Hamedan University of Medical Sciences

Research Consultant for "Predicting Drug Usage in Hospitals"   2022 – present │ Hamedan, Iran
Hamedan University of Medical Sciences

Head of Computer Engineering Association   2016 – 2017 │ Hamedan, Iran
Hamedan University of Technology

🏛 Selected Academic Projects

Emotion Recognition using EEG signals
Emotional states in arousal/valence dimensions have been classified using EEG signals. Using the Sparse Representation Model, EEG signals have been reconstructed by a Dictionary. final classifications are based on the reconstruction error of each Dictionary.

Tools and Methods: Machine Learning, Python, MATLAB, Sparse Models, Genetic Algorithm

Image Denoising Using Sparse Representations
Develop a method for removing white zero-mean Gaussian noise from digital images using sparse representation techniques. The proposed method involves pre-processing the image, representing it as a linear combination of a small number of basis images, removing the noise components, and reconstructing the image.

Tools and Methods: Machine Learning, Sparse Representation, Dictionary Learning, MATLAB

Intelligent Tea Maker

The Intelligent Tea Maker is a smart tea-making device that utilizes Raspberry Pi and a Telegram bot to automatically prepare tea based on user preferences. The system consists of a Raspberry Pi, temperature sensors, a servo motor, and a Telegram bot. Users can control the tea maker remotely and customize their tea preferences through the Telegram bot.

Tools and Methods: Raspberry PI, Python, Electronic Circuits

🏭 Industrial Projects

Stock Simulator Application 🔗
For : ViraNegar

Simulating a stock market buy/sell with virtual money by creating a virtual environment that mimics the behavior of a real-world market, where users can trade virtual stocks using virtual money. In this setup, users can buy and sell stocks at market prices and observe the performance of their virtual portfolios over time.

Tools and Methods: Spring Boot, Spring Security 6.0, Microsoft SQL Server, Ubuntu, ReactJS

Hadaf Academy Online Course Shopping
For : Hadaf Academy

An Online Course Shopping website where users can browse, purchase, and access various online courses. users can join live classes, participate in exams and see their workbooks.

Tools and Methods: Spring Boot, Microsoft SQL Server, Ubuntu, ReactJS

Hamedan University of Technology Online Course Ware
For : Hamedan University of Technology

A customized Learning Management System (LMS) powered by Moodle to align with specific learning and technical objectives of the Hamedan University of Technology such as a local FTP server, integrating with Golestan (student management system), ...

Tools and Methods: Moodle, Microsoft SQL Server, Disk Quota, FTP Server, Spring Boot, Ubuntu

🔬 Work Experiences

Software Engineer   Jul 2022 – present
Hamedan University of Medical Siences 🔗   Hamedan, Iran
working on using machine learning models to analyze medical data and discover patterns that can help improve health outcomes and patient experiences.

Java Back-End Developer   Apr 2020 – present │ Tehran, Iran
ViraNegar 🔗
focused on designing, developing, and implementing scalable and efficient Java applications using the Spring Boot framework.

Chief Technology Officer   2020 – 2021 │ Hamedan, Iran
Arian Hoosh Fanavar Pishgam
worked on FUZZY and GNP(Genetic Network Programming) models to analyze and interpret Iran stock markets data, making predictions about future market trends one step ahead.

Java Back-End Developer   Jul 2017 – Sep 2019
Cyberoxi 🔗   Hamedan, Iran
an intern worked on learning Spring Boot and developing health-related applications

🔭 Research Interests

Natural Language Processing with Transformers

Developing and improving large scale language models like GPT-3

Enhancing model's ability to generate more fluent, natural-sounding language

⇄ Volunteering

Executive team leader of holding the annual   Oct 2018 │ Hamedan, Iran
gathering of computer engineering faculties and
students
Hamedan University of Technology

Executive Team Leader of Organizing the ACM   Apr 2019 │ Hamedan, Iran
Programming Competition at the Western Region
Level
Hamedan University of Technology

⚹ References

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