Emad Mahmodi

Highly accomplished Software Engineer with extensive experience in C/C++, C#, Android development, web development using Python and Django, and application security analysis. Adept at designing, developing, and deploying robust, high-performance software solutions across diverse domains. Possesses deep expertise in object-oriented programming, multi-threaded applications, and secure coding practices. Skilled at identifying and mitigating security vulnerabilities, ensuring software integrity and compliance with industry standards.

Key Strengths:

Development of performant, cross-platform software in C/C++ and C#.
Building secure and feature-rich Android applications leveraging the latest technologies.
Expertise in web application development with Python, Django, and REST APIs.
In-depth knowledge of application security principles, including vulnerability assessments and penetration testing.
A passion for mentoring and contributing to code reviews, ensuring adherence to best practices and coding standards.

Education	
2014–2017	**Masters of Computer Science (Software Engineering)**, *The University of Mashhad*, Ferdowsi, Iran, **Title**, *Adaptive rule base phishing detection against URL obfuscation* **Supervisor,** Dr. **Hadi Sadoghi Yazdi,** Dr. **Abbas Ghaemi Bafghi**

Working Experiences and Professional Activities	
2023-2024	• Software engineer at Negar-Khodro • C/C++ developer, QT-QML developer • Android developer(java/kotlin) • C#(WPF) developer • Create egaremap application (Link) • Web developer(python/Django) • Data scientist (python, PyTorch)
2022-2023	• Software engineer at Greenchall company • C/C++ developer (project is based on Jetson Nano processor (Quad-core ARM Cortex-A57 MPCore)) • Kotlin developer (mobile application developer) • Senior C/C++ Programming, System Programmer, QT-QML developer, Embedded system • Data scientist (python, PyTorch) • Web developer (python/Django)
2020-2023	Senior Programming C/C++, System Programmer, QT-QML developer, Linux Developer, Embedded system at NIUniverse, Rahgozin Rayaneh (C/C++, Python, Machine learning) (Link) • Analyze network traffic and protocols • Linux developer. • Analysis of binary files to uncover potential threats and quickly develop prototype demonstrations of the risk • Performs systems modeling, simulation, and analysis • Optimize of ECU (electronic control unit) with different ISA

Email: emad.mahmodi.eng@gmail.com
Website: http://emad.mahmodi.student.um.ac.ir LinkedIn: https://www.linkedin.com/in/emad-mahmodi/ Google Scholar: https://scholar.google.com/citations?user=ZrJX2noAAAAJ&hl=en
Research Gate: https://www.researchgate.net/profile/Emad_Mahmodi Number:09113002150
Skype Name: Live:emad.mahmodi

	• Train and mentor junior team members reverse engineering and programming with C/C++
2019–2020	Senior IT Consultant in IEPCanada company (Link) • Web programing with Django-python • Create secure payment gateway API • DevOps (Manage and control the Server of IEPCanada(Centos, Windows 10, ubuntu)) Data science programing for fraud detection by python (package deep learning, datascince)
2017–2019	Java developer in Shomal University of Amol
2015-2018	Software Engineer, C/C++ programmer at ITC in Ferdowsi University of Mashhad.

Projects & Researches & working	
2022-2024	Design and implement car diagnostic tool (OBD) : 1- Implemented an OBD software with the AUTOSAR standard . 2- Produce a server architecture for automotive diagnostic device services. 3- Using multithreading strategies to handle the state machine individually. 4- Used software oriented architecture (SOA) to develop. 5- Developed Android applications using Kotlin, enhancing user experience and app performance. 6- Optimized app performance (in mobile and x86 platform) by profiling memory usage, thread management, and minimizing API calls. 7- Implemented MVVM architecture with Jetpack libraries for scalable and maintainable projects. 8- Implemented MVVM architecture with C#/WPF to create the Negaremap application
2022-2023	Locomotive GT26: 9- Implemented the compile time and run time State Machine application similar to MATLAB's Simulink in C/C++ on the Debian OS. 10- Implement the system based on receive data from sensor by FPGA with programmable logic devices with hardware description language such as Verilog and communicate protocol such as shared memory to PC to adaptive based system. 11- Using ZeroMq to communicate between client and server based on published/subscriber architecture 12- Using multithreading strategies to handle the state machine individually. 13- Used software oriented architecture (SOA) to allocated services of each state machine, synchronously .
2022-2023	Auto Driver: 1- Implement compile-time Matrix library based on template function. 2- Using SIMD to increase the matrix-vectors calculation. 3- Web developer (Python/Django)
2022-Current	OBD: On board diagnostic 1- Create a gateway to manage the services of each device. 2- Implemented a non-blocking Service Oriented Architecture. 3- Using the kernel by pass to increase the speed of packet relived. 4- Data science
2022-Current	ADEC(Advance Design Engine Controller): 1- ISA of MPC565 RISC microcontroller. 2- Analyst the app by Ghidra, Radar2 to check the security access (analysis, develop the Ghidra extension in java, python) 3- Implement the emulator of device.
2021-2022	PORT Monitoring: 1- Create an application based on TCP, UDP, and Serial port to monitor the network 2- Used Qt/QML to depict the value of packet.

Email: emad.mahmodi.eng@gmail.com
Website: http://emad.mahmodi.student.um.ac.ir LinkedIn: https://www.linkedin.com/in/emad-mahmodi/ Google Scholar: https://scholar.google.com/citations?user=ZrJX2noAAAAJ&hl=en
Research Gate: https://www.researchgate.net/profile/Emad_Mahmodi Number:09113002150
Skype Name: Live:emad.mahmodi

2017–2020	Working with PHD project (Matlab, Python, Java) 1- Diffusion of online learning algorithm to handle concept drift

2018–2019	Working on Digikala's project (Matlab, Python, Java)
	   1- Identification of customer ordering pattern based on data mining methods to considering
	   2- implement machine learning algorithm with high performance using by GPU.

2017–2019	Recommendation System (working as a data scientist)(Matlab, Python)
	   1- Clustering using deep learning in the process of collaborative filtering recommendation
	   2- Recommended collaboration system based on impact and influence of people on each head
	   3- Improved collaborative filtering-based recommender system using the reduction and semantic method.

2016-2018	Proposed new features to create phishing dataset based on Levenshtein Distance and TF-IDF (Java)
2016-2018	Proposed method which combines the Linear-order and Gussian-order online learning algorithms (Matlab)
2017	Fuzzy based phishing detection system.(Matlab)
2017	Association rule based phishing detection (Python)
2015-2016	Create Phishing datasets (Java)
2016	Proposed new method to detect online Phishing detection based on Google Search engine (Java, Python)
2016	Handwriting recognition using Anfis and Neural Networks (Matlab, Python)
2009–2011	Integrated Web Application with C# and ASP.Net MVC 5
2015	Analyze the network attacks based on Unsupervised (clustering algorithms such as K-means, Hierarchical, t-SNE, DBSCAN, and etc.) and Supervised Learning (Online learning such as Perceptron, Optimization Gradian Desent, Passive Agrresive, Confidence Weighted, Adaptive Regularization of Weight and etc. and Offline Learning such as NSVM: Nonparallel SVM, STPMSVM: nonlinear smooth twin parametric-margin SVM, TWSVM: Twin SVM, and etc.)(Python, Matlab)
2015	Advance Shop (python/Django)
2012	Hotels Reservation System (C#)
2010	Time management and class assignment system for university.(C#)

Memberships	
2015-2020	Data and Communication Security Lab (DCSL), Ferdowsi University of Mashhad
2016-2020	Pattern Recognition Lab (PRL), Ferdowsi University of Mashhad
2018-2020	Machine Learning and recommendation system, The university of Shomal
2019	Iran Society of Artificial Intelligence (ISAI)
2019	International Association of Computer Engineers (IAENG)
2017	Iran Society of Cryptography (ISC)

Honors & Awards	
2022,2023	C/C++ Senior programmer, Android developer at NegarKhodro
2020, 2021, 2022	C/C++ Senior programmer, Linux developer, Embedded system in NiUniverse and Rahgozin Rayaneh.
2018	Scholarship from Information & Communication Center Ferdowsi university of Mashhad (ICT)

Email: emad.mahmodi.eng@gmail.com
Website: http://emad.mahmodi.student.um.ac.ir LinkedIn: https://www.linkedin.com/in/emad-mahmodi/ Google Scholar: https://scholar.google.com/citations?user=ZrJX2noAAAAJ&hl=en
Research Gate: https://www.researchgate.net/profile/Emad_Mahmodi Number:09113002150
Skype Name: Live:emad.mahmodi

2017	Scholarship by Data and Communication Security Lab (DCSL) of Ferdowsi University of Mashhad (Supervised by Professor Abbas Ghaemi Bafghi)
2017	Scholarship by Pattern Recognition Laboratory (PRL) (Supervised by Professor Hadi Sadoghi Yazdi)
2014	Ranked within the top 1% in the Iranian university entrance exam for graduate studies.
2014	First place in student programming computation in Shomal university of Amol

Computer skills

Programming	- C++ - Multi-threading, IPC, File descriptor, OOP programming, high performance computing with CUDA(OpenCL) (GCC, Ninja, Clang) (Cmake, Makefile)(GDB), wireshark, QEMU - python - Django, Django REST framework, Datascience, NumPy, SciPy, PySpark, scikitlearn, pandas, NumPy, SciPy, PySpark, scikit-learn, Keras, pandas - Java (kotlin) - Selenium webdriver, Apache Lucene, object oriented programming, Maven, big data framework like Spark and Hadoop - C# - Windows Forms Applications, .NET Framework FronEnd - JavaScript, CSS - Database - SQL Server, MySQL, LINQ, Access
General Software and OS	- LaTEX - OpenOffice, Mendeley - Kali, Ubuntu - Windows 10, CentOs, Ubuntu - Microsoft Windows
Build tools	Cmake, make, Gradle,
Version control	Git, GitHub, GitLab
Computer engineering Software	- Docker, Kubernetes - Ghidra, Radar2(iaito), Unicorn, imHex - Wireshark - Boost.Asio - ZeroMq - Protocol Buffers - Matlab - Weka

Publication

Emad Mahmodi, Hadi Sadoghi Yazdi, Abbas Ghaemi Bafghi (2020)"A drift aware adaptive method based on minimum uncertainty for anomaly detection in social networking", Expert Systems with Applications, 113881.(Accept) (Link)
Nozari, R. Barzegar, H. Koohi, and E. Mahmodi. "A Novel Trust Computation Method Based on User Ratings to Improve the Recommendation." International Journal of Engineering (2020).(Accept) (Link)

Email: emad.mahmodi.eng@gmail.com
Website: http://emad.mahmodi.student.um.ac.ir LinkedIn: https://www.linkedin.com/in/emad-mahmodi/ Google Scholar: https://scholar.google.com/citations?user=ZrJX2noAAAAJ&hl=en
Research Gate: https://www.researchgate.net/profile/Emad_Mahmodi Number:09113002150
Skype Name: Live:emad.mahmodi

Emad Mahmodi, Abbas Ghaemi Bafghi (2017)"Phishing detection based on Levenshtein distance between frequent keywords and main domain web page" Iranian Security Community Conference (ISCC)(Accept)(Persian) (Link)
Emad Mahmodi, Hadi Sadoghi Yazdi, Abbas Ghaemi Bafghi (2023)"Intelligent detection scheme using adaptive feature reduction for phishing attack" Future Generation Computer Systems, Elsevier journal.(Under Review)
Tahereh Farzi, Hamidreza Koohi, Emad Mahmodi (2023)"An improved collaborative filtering based recommender system by dimensionality reduction and semantic method" Information processing and management, Elsevier journal.(Under Review)
Keyvan mahmoudi, Emad mahmodi (2023)"providing a distributed deep learning approach for sentiment analysis by using the BiLSTM algorithm and the Glove Embedding" International Journal of Engineering.(Submited)

Languages	
Persian	**Native language**
English	Fluently

Research Interest
Embedded system
Machine Learning
Operating system
Android developer
Internet Of Things (IOT)
Security Engineer or Security Analyst
Web developer

Email: emad.mahmodi.eng@gmail.com
Website: http://emad.mahmodi.student.um.ac.ir LinkedIn: https://www.linkedin.com/in/emad-mahmodi/ Google Scholar: https://scholar.google.com/citations?user=ZrJX2noAAAAJ&hl=en
Research Gate: https://www.researchgate.net/profile/Emad_Mahmodi Number:09113002150
Skype Name: Live:emad.mahmodi