Kamran Amini
Expert Software Engineer at TomTom
High Skilled Migrant (Kennismigrant) in Netherlands

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SUMMARY

As a highly energetic and motivated expert software engineer with more than 10 years of technical experience in developing and architecting enterprise and distributed software for international companies, my skills cover a wide variety of development tools and platforms. The enterprise projects which I've been part of, include a wide range of technologies, patterns, and concepts based on embedded C, C++, Java, Scala, and Python. As a senior software engineer, I have strong hands on writing codes with various programming languages including C, C++, Java, Scala, and Python as well as Bash scripting while having the best design practices in mind. As a distributed system engineer, I've always encountered strict and tough functional and non-functional requirements like security, performance, data consistency, fault tolerance, and high availability which have always made me thrive and become even more experienced.

TECHNICAL SKILLS

- **Expert Level Prog. Langs:** C++14 (`g++`, `clang++`) - C11 (`gcc`, `clang`) - Java - Python
- **Some-Hands-On Prog. Langs:** Scala - x86-64 Assembly - Erlang
- **Paradigms:** Procedural - OOP - Functional - Actor Model - Aspect Oriented
- **Web Dev.:** Apache httpd - CGI (PHP, Python, Perl) - Java Servlets (Wildfly, Jetty, Tomcat, Glassfish) - Spring MVC - Play
- **Debugging:** `gdb` - Valgrind (memcheck, massif, callgrind) - Clang ASAN & TSAN - JConsole - PDB - `objdump`
- **Data Stores:** PostgreSQL - MySQL - MongoDB - Memcached - Redis - Zookeeper - HBase - Cassandra
- **SCMs:** Git - Perforce - Mercurial - Subversion - TFS
- **Build Systems:** Makefile - CMake - Ninja - Ant - Gradle - Maven - Bazel - sbt
- **IDEs:** Vim as IDE (♥☺) - IntelliJ IDEA - MS Visual Studio
- **DevOps Skills:** Bash Scripting - Perl - Python - KVM - Docker - Jenkins - Zabbix
- **Concurrency:** Multithreading - Multiprocessing - Event Driven Dev. (libuv, Java NIO, Netty) - Actor Model (akka) - Process and thread synchronization (mutexes, semaphores, condition variables) - shared memory - pipes
- **Distributed/Enterprise Systems:** MQM - Microservices - DFS (HDFS, Luster, Gluster) - Dist. Processing (Ignite, MapReduce) - Dist. Caching - Dist. Key-Value Stores - Dist. Configuration - Streaming - Microbatching - CQRS - Event Sourcing - FT and HA - DMQ (Kafka)
- **Computer Science:** Balanced Trees (AVl, B-Tree, RB) - Graphs - Index Trees - Tries - Sort & Search Algs - Compression Algs - Bit Matching Algs
- **Serialization & RPC:** Protobuf - gRPC - ZeroMQ - Thrift - JSON over REST - Java RMI - XMLRPC
- **Specifications:** SUS - POSIX - PKCS standards - JavaEE (JPA, JSM, EJB, Java Servlets, JAX-WS, JAX-RS, etc) - RFCs (ASN.1, IP, TCP, UDP, DNS, HTTP, CMS, etc)
- **Cryptography:** OpenSSL - Symmetric Algs (DES, 3DES, AES) - Asymmetric Algs (RSA, ECC, DH) - SSL - PKI (CA, Digital Signature, PKCS certs, HSMs and Cyrpto. Tokens) - Wrap Keys - Hash Algs - MAC Algs - Error Detection (Crypto. Hashes)
- **Computer Networks:** OSI & Internet Protocol Suite, Packet Switching, Error Detection & Correction (Checksum, CRC, ARQ, FEC), L3 protocols (ICMP, IP) - L4 protocols (UDP, TCP) - Socket Programming - L3 programming (`libpcap`, JNetPcap) - Wireshark analysis - Penetration Testing - `tcpdump`
- **Kernel Dev.:** Linux Modules - Linux SysCalls - FreeBSD Modules
- **Machine Learning:** CUDA Dev. - Tensorflow (C++ & Python) - DSP - OpenCV (C, C++, Python) - Supervised & Unsupervised Learning - Reinforced Learning - Deep Learning - Locality Sensitive Hashes - Iris Code - Gabor filter - Feature Selection & Extraction
- **Operating Systems:** Linux (Ubuntu, Red Hat, CentOS) - UNIX like OSs (Mac OS, FreeBSD, QNX) - MS Windows
- **CI:** Jenkins - QuickBuild - Travis CI
- **Documentation:** MarkDown - LaTeX- Ascii Doc - Doxygen
- **Scrum:** JIRA - Fisheye - Confluence - Bitbucket - Stash - Redmine - GitLab -Code Reviews - Pull Requests - Release Chain

CAREER

★ **TomTom**
  Expert Software Engineer *(Sept. 2017 - Dec. 2018)*
  Netherlands, Amsterdam
  - NavKit Free Text Search Engine, Navkit Worker REST Services, POI Info Services
  - C++11 (`g++`, `clang`) - `gdb` - Valgrind - Clang ASAN & TSAN - STL & Boost - Google Test - Protobuf - Java SE - JUnit - Spring MVC - JAXB - Spring REST - Thrift - Python - Jenkins - QuickBuild - Docker- JIRA - Fisheye - Confluence - Bitbucket Stash - AWS/Azure based cloud

★ **Jeppesen Systems (Boeing)**
  Expert Software Engineer *(Feb. 2017 - Aug. 2017)*
  Sweden, Gothenburg
  - Manpower Application
  - C++ (`g++`) - Python - C#.NET - `gdb` - Valgrind (callgrind, massif) - PDB - STL & Boost - Google Test - XMLRPC - Jenkins - JIRA - Fisheye - Confluence

★ Sahab Pardaz Co.

Deep Learning Research Developer, Enterprise Software Architect *(Jul. 2016 - Feb. 2017)*
Distributed Systems Architect, Senior Software Engineer *(Feb. 2015 - Jun. 2015)*
Iran, Tehran

- DL based Network Traffic Analyzer - Network Anomaly Detector
- C++ (g++) - C (gcc, CUDA) - Java SE - Python - gdb - Valgrind - STL & Boost - Google Test - protobuf - gRPC - Tensorflow - Zookeeper - Memcached - Jenkins - Zabbix - Redmine - GitLab - Github

★ Adro Co.

Senior Software Architect, Principal C++ Engineer textsl(Jun. 2016 - Feb. 2017)
Iran, Tehran

- Real Time Bidding Engine
- C++ (g++) - Python - gdb - Valgrind - STL & Boost - libuv - Google Test - protobuf - Jenkins - Travis CI - Docker - JIRA - Fisheye

★ Noavaran Tejarat Gostar Naeem Co.

Chief Technical Officer, Chief Software Architect *(Apr. 2015 - Oct. 2016)*
Iran, Tehran

- **Projects:** ePassport Issuance System - Face Recognition System, Biometric Identification Sys.
- **Crypto.:** OpenSSL - PKCS (1, 7, 10, 11, 12) - ICAO MRTD standards - HSM - Key Mgmt. - PKCS11 Tokens
- **Stack:** C (gcc) - C++ (g++) - Java SE - Java EE - Spring MVC - Wildfly - Tomcat - Python - gdb - Valgrind - STL & Boost - wxWidgets - Qt - Google Test - Jenkins - Docker - vSphere - proxmox - Gluster - Cassandra - Redmine - GitLab

★ Sharif CERT Center

Java SE/EE Engineer, C/C++ Engineer *(Dec. 2011 - Jun. 2013)*
Iran, Tehran

- Botnet Detection System - Sinkhole - DDNS as a FreeBSD module
- C++ (g++) - Java SE - Perl - gdb - JConsole - Valgrind - STL & Boost - Swing - Redmine

NOTABLE OPEN SOURCE PROJECTS

- **Hottentot:** A light-weight serialization and RPC framework for C++ and Java (`github.com/labcrypto/hottentot`)
- **Fence:** A durable queue with a centralized master node with C++, Java, and Python clients (`github.com/labcrypto/fence`)
- **Avicenna:** A light-weight Dependency Injector for Java (`github.com/kamcpp/avicenna`)

FOREIGN LANGUAGES

- Persian (**Native**)
- English (**Fluent**)
- French (**Intermediate**)
- Dutch (**Intermediate**)

EDUCATION

- 2017 - Present
The Open University
Bachelor of Science in Physics (Astronomy and Planetary Science)

- 2004 - 2008
University of Isfahan
Isfahan, Iran
Bachelor of Software Engineering

INTERESTS

- **Physics and Astronomty**: Consmology, Astronomy, Quantum Physics, Quantum Mechanics, Particle Physics, Special and General Relativity, Theory of Everything, Photonics.
- **Mathematics**: Linear and Abstract Algebra, Probability Theory, Information Theory
- **Cryptography**: Information Security, Network Security, Security Algorithms, Quantum Information Theory, Quantum Key Distribution, Quantum Cryptography
- **Philosophy**: Western Philosophy, Sociology, Economics, Politics and Humanities
- **Telecommunications**: Modulation, Multiplexing, Codes, Telecommunication circuits, Photonics and optical fibers, IEEE 802.3 Protocols, Information Theory, Coding Theory, Computer Networks, etc
- **Music and Musicology**: Classic, Extreme Metal, Alternative Metal, Progressive Metal, Alternative Rock, etc