**Kamran Amini**
**Expert Software Engineer at TomTom**

Parnassusweg 999, Amsterdam 1082LZ
+31 (0) 611060215
Email: kam.cpp@gmail.com
Github: github.com/kamcpp
Linkedin: linkedin.com/in/kamcpp

## 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 that 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 made me thrive and become more experienced.

## TECHNICAL SKILLS

- **Programming Langs:** C++11 (g++, clang++) - C11 (gcc, clang) - Java - Python - Scala - x86-64 Assembly
- **Debugging:** gdb - Valgrind (Memcheck, Massif, callgrind) - Clang ASAN & TSAN - JConsole - PDB
- **Paradigms:** Procedural - OOP - Functional - Aspect Oriented
- **Concurrency:** Multithreading - Multiprocessing - Event Driven Dev. (libuv, Java NIO) - Actor Model (akka) - Process and thread synchronization (mutexes, semaphores, condition variables) - shared memory - pipes
- **Data Stores:** PostgreSQL - MySQL - MongoDB - Redis - Cassandra
- **Computer Science:** Balanced Trees (AVl, B-Tree, RB) - Graphs - Index Trees - Tries - Sort & Search Algs - Compression Algs - Bit Matching Algs
- **Distributed and Enterprise Systems:** MQM - Microservices - DFS (Hadoop, Gluster) - Dist. Processing (Ignite, MapReduce, akka) - Dist. Caching - Dist. Key-Value Stores - Streaming - Microbatching - Event Sourcing - FT and HA strategies - DMQ (Kafka)
- **Serialization & RPC:** protobuf - gRPC - ZeroMQ - Thrift - JSON over REST - Java RMI - XMLRPC
- **Specifications:** SUS - POSIX - PKCS standards - JavaEE(JPA, JSM, EJB, JavaServlets, JAX-WS, JAX-RS, etc) - Some RFCs (ASN.1, IP, TCP, UDP, DNS, HTTP, etc)
- **Cryptography:** OpenSSL - Symmetric Algs (DES, 3DES, AES) - Asymmetric Algs (RSA, DH) - SSL - PKI (CA, Digital Signature, PKCS certs, HSMs and Tokens) - Hash Algs - MAC Algs - Error Detection & Correction Algs
- **Kernel Dev.:** Linux Modules - Linux SysCalls - FreeBSD Modules
- **Machine Learning:** CUDA Dev. - Tensorflow (C++ & Python) - DSP - OpenCV - Supervised & unsupervised learning - Reinforced Learning - Deep Learning
- **Computer Networks:** L3 protocols (ICMP, IP) - L4 protocols (UDP, TCP) - Socket Programming - L3 programming - Wireshark analysis
- **SCMs:** Git - Perforce - Mercurial - Subversion - TFS
- **Build Systems:** CMake - Ninja - Gradle - Maven - sbt
- **IDEs:** Vim as IDE (♥ ☺) - IntelliJ IDEA - Visual Studio
- **DevOps Related:** Bash Scripting - Perl - Python - KVM - Docker - Jenkins - Zabbix
- **Operating Systems:** Linux (Ubuntu, Red Hat) - UNIX like OSs (Mac OS, FreeBSD, QNX) - Windows
- **CI:** Jenkins - QuickBuild - Travis CI
- **Documentation:** MarkDown - LaTeX-Ascii Doc - Doxygen
- **Scrum:** Jira - Fisheye - Confluence - Bitbucket - Stash - Code Reviews - Pull Requests - Release Chain

## CAREER

- **TomTom**
  **Expert Software Engineer** *(Sept. 2017 - Dec. 2018)*
  Netherlands, Amsterdam

  C++11 (g++, clang) - gdb - Valgrind - Clang ASAN & TSAN - STL & Boost - Google Test - Protobuf - Java SE - JUnit - Spring Web - JAXB - JSON over RESTful API - Thrift - Python - Jenkins - JIRA - Fisheye - Confluence - Bitbucket Stash - AWS/Azure based cloud

- **Jeppesen Systems (Boeing)**
  **Expert Software Engineer** *(Feb. 2017 - Aug. 2017)*
  Sweden, Gothenburg

  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

  C++ (g++) - C (CUDA) - Java SE - Python - gdb - Valgrind (memcheck, callgrind, massif, helgrind) - STL & Boost - Google Test - protobuf - gRPC - Tensorflow - Jenkins - JIRA - Fisheye - Github

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

- **Noavaran Tejarat Gostar Naeem Co.**
  **Chief Technical Officer, Chief Software Architect** *(Apr. 2015 - Oct. 2016)*
  Iran, Tehran

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

## 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