OVERVIEW:

Leader of Senior Software Engineers with strong expertise in software development. Professional experience (16 years) in leading design, development and operation of both small and large-scale software projects. Over 7 years of experience in remote working for Canadian and US companies. Received many recognitions from Motorola, McAfee, FusionPipe etc. for both exceptional work and quick delivery of high quality software, resolving the most difficult problems and and being a good team player.
The experience includes successfully designing, developing and supporting live use applications for commonly known companies like Motorola, McAfee, Sabre Airlines, Interia.PL.

QUALIFICATIONS SUMMARY:

Programming Languages:
- Experienced in: C/C++, PHP, Objective C, C#,Java, PASCAL, FORTRAN, BASIC,ASSEMBLER (Intel 8x86 (16 bit/ 32 bit),8051,MOS 6502,Zilog z80), Swift, Kotlin

Development Environments:
- Microsoft Visual Studio, IBM Rational Rose RT, Eclipse, BORLAND C++, X Code,• Other: DEVCPP, DJGPP(RHIDE),BORLAND Pascal, TASM, MASM, GCC,Liberty Basic

UI Development:
- Windows API and MFC,C#, iOS, Android

Enterprise Web Development:
- Working experience in server side scripting using PHP, CSS, Javascript, HTML, Joomla

Databases used:
- MySQL, PostgreSQL, Memcached, SQLite, Realm

Server used: •
Apache HTTP Serve

Debug tools:
- internal debuggers: .Net, Eclipse, X Code
- network protocol debugging tools: wireshark,
- network debugging tools (ping, tracert,ipconfig,nslookup,netstat etc.)
- website debugging tools (firebug,css and html validators)
- advanced debuggers: windbg, gdb, cgdb

API:
- WINAPI, SOCKET, Allegro, MFC, DirectX, GDI, STL, MIDP 2.0, DLL, ACTIVEX, Quartz,
Quartz, SDL

OS:
- DOS, MS Windows (2000,XP, Vista,Blue: 32 bit/64 bit), Linux, Solaris, iOS, MacOS, Android

Version control:

- CVS, SVN, VSS, ClearCase, Git, github

Project scheduling and management tools:
- GanttProject, Team Player, Version One

Static analysis and other tools:
- Prefast, Driver Verifier, Coverity, Blackduck, xperf

AV System programming based on:
- JPEG, RLE, H.263, H.264, MPEG, G711, G729, iLBC, GSM, Huffman coding, arithmeticcoding, LZ77 coding, Wavelets based compressors

Network programming:
- standard protocols (binary: TCP, UDP, ICMP, text: HTTP, SIP, SMTP,POP, SyncML) andnonstandard protocols(internal), low latency systems (based on epoll), encrypted protocols with a key agreement

Security protocol implementation:
- a key-agreement (Diffie-Hellman), authentication (basic, digestmd5), encryption(RC4,AES,DES),

P2P Systems implementation (VoIP, file-sharing,etc. + NAT Traverse):
- central, semi - central, distributed

Recognizing systems:
- Fourier transform and neural network based

AI:
- neural network (error backpropagation learning, hebb rule), genetic algorithms, pathfinders, (heuristic ex. A-Star), state machines (for games), LOS

Acoustic Echo Cancellation:
- LMS, NLMS

Video Codec implementation:
- DCT/DWT based

Spectral analysis:
- Fourier, DCT, WAVELETS

Large scale systems implementation with use:
- hash tables, genetic algorithms, bloom filters, boyer-more alg., binary trees, etc.

Games programming (+mobile):
- RTS, RTT, Arcade, 3D

Operating system programming:
- strong knowledge and experience

Application plugin systems:
- DLL Based

Math and physics

LANGUAGE SKILLS:

English: fluent

Polish: native

PROFESSIONAL EXPERIENCE:

Sr Software Engineer (iOS,Android,Windows)

LabTower, May 2015 – still

Projects I have fully completed there:

Audio Video Conference system – Successfully created a client and a server for conferencing system. The Windows Native Client can support audio meetings up to 40 people simultanously. The audio system supports resampling input sound data to internal frequency (to support different audio codects – now it works with GSM at 8kHz, Speex at 8kHz, 16kHz,32kHz etc.). Also created a system that works on WebRTC that allows Audio Video chats. All has been created in C++ from scratch. The webclient has been created in javascript (jquery, websockets etc.). The server has been created as a multiplatform code (it compiles and works on Windows and Linux).

Prawo Jazdy 2020 (Application that helps with preparing for driving test exam) – Android application with official government database of questions used for driving license exams. The application downloads movies/images from the server, and properly displays them. Have created all the code.

Air Fighter – Android arcade game. Have created all the code.

Full time outsourcing:

Fitness App, Vancouver, BC, Canada (remote work)

Work on application that is used to create a personal training plan used in Gym. The application is developed for iOS platform. It allowed to deliver customized plans based on user's goal. Mentored and helped younger and less experienced team members. Implemented some new features, redesigned the app, to be able to reach the new goals. Parallely fixed the existing bugs, and was assigned to resolve the most difficult problems in the app.

Evolve, Vancouver, BC, Canada (remote work)

Successfully designed and implemented an application that analyses Heart Beat Rate from 4 sources connected over btle (parallely). The application has been created for Windows (c++) and used BTLE to connect with HR monitors. The purpose of the project was to analyze BPS and score the heart state based on the frequency analysis.
Also, worked on iOS as well as Android application that is used for meditation and have been assigned to the most difficult issues on the platforms.

FusionPipe, Vancouver, BC, Canada (remote work)

Described below in a separate section, since it was a long term cooperation (April 2014 – April 2018)

Software Engineering Team Leader

Sabre Airline Solutions, April 2018 – June 2019

Was leading the Software Engineering team and have resolved many issues related to the Crew

Control software. Introduced many new techniques of bug analysis and participated in the latest technology development related to the Air Solutions Systems (specific details are currently restricted). Mentoring younger and Senior Software Engineers and helping with designing as well as resolving issues. Typically, assigned to the most difficult problems.

Sr. Software Engineer (Security Software)

FusionPipe Software Solutions, Vancouver/Ireland April 2014 – April 2018 (starting from April 2015 remote work as LabTower)

Have contributed to many applications on various platforms: iOS, Android, Mac and Windows. As the most experienced software engineer, Have introduced professional standards of development cycle, and helped other developers.

The projects I have participated in:

QuikID Fido – software that is used to authenticate a user in windows operating system using FIDO token – so this included creating a service (windows service), communication over bluetooth and usb with the FIDO token, credential provider, TCP/IP communication

QuikID Smart – software that simulates the Smart Card (ISO 7816, OpenPGP) – have created both: backend – the Smart Card SDK (that can be used for any device as it was created in C), application for the iOS (that is used to simulate the smart card on the phone), windows application that is an interface for the smart card on the PC and iPhone (bluetooth, secure protocol, etc.), smart card reader driver – that simulates a physical smart card reader, and enables to use the smart card from the phone – all the code has been created only by myself.

QuikID -the software to lock/unlock computer with using a mobile phone. Have created the core implementation (client-server communication over TCP/IP, credential provider, authentication, communication over BTLE) and SDK for both sides PC and smartphone. The both Credential Provider and QSLib (multithreaded communication library) were created using C,C++ and C# (device management tool). The smart phone part is written in Objective C and C.

QuikSafe - the software that is a container to store secure keys protected by additional device called Keyvault.
Designed and developed the core functionality of the software (message handling, communication layer, interfaces as well as user interface). Have created a multiplatform code to allow easy migration to a new platform. Worked on the following applications for iOS: KeyVault, Container, QuikSafe SDK. The code I created was written in Objective C and C (the multiplatform part: general SDK + communication protocol). I received a recognition for working in that company.

Sr. Software Engineer (Kernel Developer)

McAfee Ireland ltd. Jul 2012 – March 2014

During cooperation with McAfee I received several recognitions like the bravo award for good cooperation with other teams, etc. The last performance score I received was over 100% (feb 2014). Participated in the following project:

DeepSAFE: The project was focused on modern approach to anti-malware protection - DeepSafe technology (http://www.mcafee.com/us/solutions/mcafee-deepsafe.aspx).
During this cooperation introduced a lot of features to DeepSafe technology (in Hypervisor and Windows Kernel Mode) eg. support virtual machines, process identification in hypervisor mode (we couldn't use Kernel Mode functions there, as the supervisor is above the OS), requests queues, etc.
Also have done a lot of researching on Antivirus technologies . The results were used to both improve analysis methods as well as to add a new features to our software.
Successfully investigated issues in third party software, in code that was executed hypervisor mode (virtualization) – it was difficult because the behaviour is the similar to a memory/stack corruption, the cpu hangs on random thread in random code position, no additional tips.
Have investigated and fixed pre-existing kernel mode defects (like very difficult to analyze 101 without CPUs state, or reboots with no logs etc.). Introduced a new investigation methods to a set that was used by McAfee (like post boot memory analysis -based on idea of cold boot attack, stack reconstruction based on raw memory etc.).
Have created a source code analyzer to be able to find all memory tags that were used in the code. This tool was also used to add additional debug info and find all memory leaks..
Performed both static and performance analysis, and fixed a lot of issues that were found during the execution of those tools.
In parts that were testable, added tests to make the code maintenance easy (the core functionality was tested during daily builds).
Worked there using C/C++, Assembler and widbg, and reverse engineering tools like IDA Pro. I loved to work at McAfee Ireland, I left this company only because of my work at project was complete and my letter of introduction to Canada (it allows to obtain work permit on Canadian border) was about expiration time.

Software Engineer

Motorola Solutions System, Poland Mar 2008 – Jun 2012

At Motorola I received several recognitions and awards as well as the outstanding performance score (the best worker at Motorola).
The projects participated in and were successfully released were:
Mototrbo,TMS: Have worked on Instant Messenger (C# and C++)

Both the client and server were multithreaded, so have successfully changed the architecture to avoid problems with race condition, deadlocks etc. Also introduced a lot of features, e.g. APAC support for the communicator (eg. there was a problem with third party deliverable - RichTextBox control didn't support surrogates well, so had to do workaround etc.), dynamic font cashing system, sorting of Chinese characters. Have fixed a lot of pre-existing bugs as well as helped others with their tasks. Became a Multichannel Device Driver Domain Expert .
Astro 25,CSS: Worked on projects for Government and Public Safety, developing and programming (communication systems, BR stations, Configuration tools), introducing a new features to multithreaded applications, defect prevention and fixing.
The project was for a government I can only tell that I worked there with embedded systems (realtime – with use Rational Rose RT), with languages like: C++,Java, Assembler.
During the work also used tools like Wireshark (for the network protocol analysis), Eclipse (Java),
Slip: implementation of SLIP protocol functionality – driver that allowed SLIP protocol functionality in windows Vista. This was very important for backward compatibility (to support an old BR stations). Was a project owner, an architect. I received a recognition for that product, as I delivered the fully functional product and the development process took only 2 months.

lecturer (OS Programming, Advanced Windows Programming (also drivers for 32 bit),Device Driver Development, etc.), prepared a lot of lectures for Motorola Software Engineers, the feedback was very good,

OS Development: Have created a course for Motorola's Software Engineers where they could learn how to create an own operating system. the management of Data Apps department gave me an award for that.

My cooperation with Motorola was great, I left the company because of my plans to move to Canada – I wanted my children start their education in school where they could speak english.

Programmer

ZZ Progs ltd. and AviMedia ltd. Jun 2006 – Mar 2008

MFA,DCS,SCS: Have successfully created a multithreaded communication systems: distributed (DCS,MFA), client-server(SCS); AV codecs; synchronization systems; security protocols (based on Diffie-Hellman key agreement, AES encryption); I created P2P systems based on udp hole punch method, and distributed protocols like gnutella etc.

Cellphone solutions: Created a Sudoku game (J2ME+MIDP 2.0), SMS Compiler based on OMA/OTA spec.

Click Maps: Have created a web-based system to collect all clicks on the web portal. The click collector server was created in C++ and it was designed to be a fault tolerant system. Also created an application in MFC that used a webbrowser control to display result, the analysed website was downloaded and then additional scripts were injected to generate a realtime results on downloaded webpage.

Coordination of Development Department AviMedia ltd.

www-programmer/system programmer

Interia.pl Corporation Oct 2004 – Jun 2006

Stefan: Have designed a plugin based Instant Messenger, implemented a lot of features there like avatar's synchronisation system, internal function calling (within plugins), module loading/unloading system, variable registration/de-registration, dynamic memory system, hash tables, communication layer, AV layer etc. Everything was created in C++. There had to avoid typical multithreading problems like deadlocks and race condition.

Search engine accelerator: There was a problem with a integration Interia's Search Engine and Google, as a connection time to google took too much time, so have created an “accelerator” that allowed to keep connection pool to Google search engine. It was a multithreaded client-server architecture. It was a low latency system created in C++, it used epolls to minimize response time.

Miasto Interia: Integration with a Gemius Panel (statistical system used by large web portals in Poland), introduced a 3 party authentication system (to avoid sharing our user's db with external partner). It was created using: PHP, Mysql,Javascript.

Session storage system for large web portal: Created a db based session storage system, that was used for storing a session data for users that were currently logged in the system. The technologies used there were: PHP, MySQL

Clicks Map: Have created a statistics system that allows to see a real-time website statistics by marking all links on the website with a color that depends on the number of clicks. The system was based on HTML, PHP, CSS and MySQL.

Premium Club: Have implemented some parts of authentication in Bank's system. It was based on SOAP and PHP.

Games: Have created a game in Java (MIDP 2.0), it was a simple arcade game.

Lecturer

Borland Corporation May 2004

Lecture about Game Programming: Prepared a lecture that showed how to create a simple game, box based collision system, multilayered stars as a background and other simple effects.

EDUCATION:

Bachelor of Applied Computer Science 2012

Faculty of Physics and Applied Science, University of Science and Technology AGH,Cracow, Poland

RESEARCHING:

"Simple method for gravity probe" ("Prosta metoda pomiaru grawitacji"), Krzysztof Zapior, Faculty of Physics and Nuclear Technique, UST 2002-2003

"Simple systems of artificial intelligence" ("Proste systemy symulacji sztucznej inteligencji") XL SSKN Faculty of Physics and Nuclear Technique, UST 2002-2003

"SETA - Factory Management Integrated System" ("SETA - ZINTEGROWANY SYSTEM ZARZADZANIA FABRYKA"), XLI SSKN FPNT, UST 2003-2004

"Modern Methods for pattern recognition systems", FPNT, UST 2003-2004

support in project: "3d Mineral Resources Representation", Jaroslaw Sobczyk, Krystian Skiba, XL SSKN FPNT

ACTIVITIES:

- Created and published a free game called Cartel Smash. Real time strategy (all code developedonly by me). It was done after working hours (about 1 year of development). The Cartel Smash is similar to the “Commandos Behind Enemy Lines”, I was very popular in Poland because of this game.
- Cooperation with universities and Diversity program.
- Lecturer at Motorola- Professional Windows Programming, Introduction to Windows Driver Development, Operating System programming, Windows Programming for experts, etc.)
- Editor-in-chief of "Kernel" (student programming newspaper, Faculty of Physics and Nuclear Technique, University of Science and Technology)
- Game tournament organization (Quake and Counter Strike - above 200 people),

HOBBY:

Researching: physics, mathematics, AI (now my own theory about dynamic synapses model for antagonistic, frequency domain neural networks), molecular genetic (DNA/RNA), computer science

Reading: Scientific publication and popular-science magazines

Sports: Extreme sports, paragliding, martial arts

Programming: RTS games, simple operating systems, websites, all that is difficult ;)

Flying: Flying as an aircraft pilot in Katowice-muchowiec airport, finishing the PPL license