



# Ioan Călin Borcoman

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21<sup>st</sup> March 1972

Married

*I have been programming in C and C++ since 1995 and in Python since 1998. My main expertise is with C++, Qt5 and QML for cross-platform, mobile and embedded development. I am registered as a self-employed software developer in Romania.*

## EDUCATION

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Master Engineering in Electrical and Information Engineering	1998 - 2001	Graduate School Of Engineering Hokkaido University, Japan
M. Sc. in Optics & Optical Technologies with Lasers & Plasma	1995 - 1996	Physics Faculty Bucharest University, Romania
B. Sc. Physicist Engineer	1990 - 1995	Physics Faculty Bucharest University, Romania

## SKILLS

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Programming Languages:	C++ (very good) Python (very good) Swift (some) C# (some) Java (some) JavaScript (some)
Databases:	MySQL, SQLite
Operating Systems:	macOS, iOS, iPadOS GNU/Linux (Debian, Ubuntu, Fedora) Microsoft Windows Android
Frameworks/Libraries/ Tools:	Qt5, QML2 CppUnit, GoogleTest, GoogleMock, Faketl STL, Boost CMake valgrind, gcover, gprof GTK+, .NET SwiftUI
Development Processes:	Requirements Gathering Object Oriented Analysis & Design Design Patterns Extreme Programming, Scrum TDD (Test Driven Development) Continuous Integration (Jenkins/Hudson)
Languages:	SQL HTML, Latex, XML
Version Control:	GIT, Subversion, CVS

## PROFESSIONAL EXPERIENCE

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**July 2011 / present      Borcoman C. Ioan-Calin PFA, Romania      Owner**

### Industry:

- Information Technologies

### Roles/Responsibilities:

- Clients:
  - IoT Design SRL, Romania (2019):
    - develop demo mobile app for setting and operating IoT light controllers
    - Tool/Technologies: C++, Qt5, QML2, QQuickControls2, Bluetooth, IoT, Android, iOS
  - Touch2Success/UkTech, UK (2014-2016, 2019):
    - code review
    - port an electronic POS system, written with Qt4, from Windows to Linux
    - rewrite the e-POS from scratch, using Qt5 and QML, so that it works on Linux, Android and iOS, uses less resources and is faster
    - install and manage a bug tracking system for Touch2Success (using Redmine)
    - Tools/Technologies: C++, Qt5, QML, Qt4, Android, iOS, Linux, Serial Port, Modem, Caller ID, Epson ESC/POS, Cups, Redmine, Azure
  - Group Photo Software Inc, Canada (2018):
    - develop the official macOS and Windows desktop application for uploading and downloading media (images, videos and audios) files to and from the GroupPhoto cloud service
    - develop the installers for macOS and Windows
    - configure automated builds with AppVeyor and Travis
    - Tools/Technologies: C++, Qt5, QML2, QQuickControls2, REST, Windows, macOS, Travis CI, AppVeyor, Inno Installer, git, github
  - mbs Electronic Systems GmbH, Germany (2015-2017):
    - add new features to a Qt4/QML1 application used to upload software to airplanes
    - port the above Qt4/QML1 application to Qt5/QML2 and update and extend its functionality and UI
    - Tools/Technologies: C++, Qt4, Qt5, QML, QQuickControls2, REST, embedded Linux, buildroot, Jenkins, Jira, git
  - Ausdia, USA (2014):
    - customized text editor based on QScintilla
    - interactive diagram editor
    - Tools/Technologies: C++, Qt4, QScintilla, Linux, Graphics View Framework, Adaptagrams
  - Sectov, Netherlands (2013-2014):
    - Windows SDK that allows easy content retrieval via a provided REST interface
    - BlackBerry 10 mobile app that retrieves and displays shopping coupons
    - BlackBerry 10 SDK that allows easy content retrieval via a provided REST interface
    - Tools/Technologies: C#, XAML, Windows Phone 8, Windows/PCL, C++, BlackBerry 10, Qt4, Cascades
  - TCS Technologies, USA (2013):
    - convert PyQt5 application to C++/Qt5 application
    - Tools/Technologies: C++, Python, Qt5, Linux, QWebKit
  - H.R.Z. Software Services LTD, Israel (2013):
    - controller application for an external medical application, using C++, Qt5 and DICOM (Digital Imaging and Communications in Medicine)
    - Tools/Technologies: C++, Qt5, Windows, DICOM
  - Portolanos LLC, USA (2013):
    - Shedskin and Python replacement modules for transparent integration of SDL
    - Tools/Technologies: Python, C++, SDL, Shedskin
- Applications published:
  - *Ison Assistant* (C++, Qt5, QML2, Android) (2015-2016)
  - *Painter's Grid* (Windows Phone 8/C#/XAML) (2013)
  - *Tip Calculator* (Windows Phone 8/C#/XAML) (2013)
  - *Keep on Track* (BlackBerry 10/C++/Qt4/Cascades) (2012-2013)
  - *Screen Check* (BlackBerry 10/C++/Qt4/Cascades) (2012-2013)
  - *PlantUML Qeditor* (Desktop/C++/Qt4) (2012-)
  - *Quake Report* (Symbian^3/Maemo/C++/Qt4) (2011)
  - *Simple XBMC Remote* (MeeGo Harmattan/Symbian^3/C++/QML) (2011)

### Microsoft BizSpark (2011-2015)

#### Technologies/Tools:

- C++, Qt4, QML, Linux, Symbian^3, MeeGo/Harmattan, BlackBerry10, Cascades, GPS, Location, Maps, CMake, Cpack, C#, Windows Phone 8

<b>Feb 2011 / June 2011</b>	<b>Altom Romania, Romania Qentinel, Finland F-Secure, Finland</b>	<b>Quality Engineer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li>develop automated test and performance tools in Python, for F-Secure</li> </ul>		
<b>Technologies/Tools:</b>		
<ul style="list-style-type: none"> <li>Python, Linux, SCRUM, Jenkins/Hudson, SoapUI, git, Networking, Multiprocessing</li> </ul>		
<b>Sept 2010 / Jan 2011</b>	<b>Alten Romania, Romania Lionbridge, France</b>	<b>Senior Software Developer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li>develop and enhance the language translation server used by Lionbridge</li> </ul>		
added a floating license mechanism to the login sub-system		
improved import and export of RTF documents containing Unicode style names		
<b>Technologies/Tools:</b>		
<ul style="list-style-type: none"> <li>C++, STL, Boost, Unicode, SVN, Linux</li> </ul>		
<b>July 2008 / June 2010</b>	<b>ENEA Services Romania, Romania Axis Communication, Sweden</b>	<b>Senior Software Developer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li>fix bugs in the firmware of embedded Linux network video camera and video servers</li> </ul>		
develop automated test for Axis cameras using Python		
<b>Technologies/Tools:</b>		
<ul style="list-style-type: none"> <li>C, JavaScript, CGI, Shell Scripting, Python, TCP/IP, IPv6, CVS, GIT, Embedded Linux</li> </ul>		
<b>Sept 2006 / June 2008</b>	<b>ENEA Services Romania, Romania Motorola DK, Denmark</b>	<b>Automation Software Developer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li>develop tools for automated testing for Motorola mobile phones, using FitNesse, Python and PyFIT</li> </ul>		
Symbian development		
<b>Technologies/Tools:</b>		
<ul style="list-style-type: none"> <li>Python, Fitness, PyFit, Unit Testing, Eclipse IDE, Embedded Systems, Symbian, Agile development, Perforce</li> </ul>		
<b>Sept 2004 / Aug 2006</b>	<b>Schlund &amp; Partner Romania, Romania</b>	<b>Team Lead / Software developer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li><i>technical lead for the Linux System Development Romania team (Nov 2005 – Aug 2006)</i> <ul style="list-style-type: none"> <li>gather requirements and estimate new change requests</li> <li>manage the Romanian team and act as a communication hub between the Romanian team and the German one</li> </ul> </li> <li><i>software developer (Sept 2004 – Oct 2005)</i> <ul style="list-style-type: none"> <li>participate in the requirement gathering and design of a network distributed, reverse-incremental, backup system</li> <li>design and implement the reverse-incremental backup algorithm</li> <li>implement the authentication mechanism using OpenSSL</li> </ul> </li> </ul>		
<b>Technologies/Tools:</b>		
<ul style="list-style-type: none"> <li>Team Lead, Object Oriented Analysis &amp; Design, Requirements Gathering, C++, Boost, STL, PKI, Multi-threading, OpenSSL, TCP/IP, Socket-programming, Fault-tolerant systems, Distributed systems, Client/Server, Backup, Subversion, Linux</li> </ul>		
<b>Feb 2002 / Aug 2004</b>	<b>Unidec Computers SRL, Romania</b>	<b>Software Developer</b>
<b>Industry:</b>		
<ul style="list-style-type: none"> <li>Information Technologies</li> </ul>		
<b>Roles/Responsibilities:</b>		
<ul style="list-style-type: none"> <li>port a MIS (Message Information System) from SCO Unix to RedHat Linux, for NEC America</li> <li>implement the back-end configuration system, using a MySQL</li> <li>implement a gui front-end, using MFC and RogueWave's Sting Ray</li> </ul>		

- implement a tool for stress-testing the MIS
- visit a couple of times the offices from Texas, USA, as a liaison between our team and the American client

**Technologies/Tools:**

- C, C++, Python, MySQL, SQL, Linux, Windows, MFC, Subversion, CVS, Stress Testing

**May 1995 / Sept 1998**    **Romanian National Institute for Laser and Plasma Physics, Romania**    **Researcher**

**Industry:**

- Plasma Display Research

**Roles/Responsibilities:**

- experimental research of plasma display electrical and optic properties

1D simulation of a plasma display

software for A/D acquisition and GPIB oscilloscope communication

**Technologies/Tools:**

- C++, GPIB, Matlab, C++ Builder, OWL, Spectroscopy, Gas discharges, Plasma

**OTHERS**

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**Paid or Free Applications:**

- *IsonAssistant (2015-2016)*  
Ison Assistant presents the basic tones from the byzantine music, using the musical scales of Macarie Ieromonahul, Anton Pann, E. Konstantinou, linear and tempered.  
Qt5, QML2, C++, Google Play  
<https://play.google.com/store/apps/details?id=ro.borco.isonassistant>
- *Painter's Grid (September 2013)*  
Mobile app to help using the "grid" drawing method, where you superimpose a grid over an image, in order to reproduce the image on another media.  
Windows Phone 8, C#, XAML  
<http://www.windowsphone.com/en-us/store/app/painter-grid/ca0a8ecd-cb70-4fe4-ac20-ab1058bdabc6>
- *Tip Calculator (May 2013)*  
Mobile app that calculates tips and total check. Can split and group by persons.  
Windows Phone 8, C#, XAML  
<http://www.windowsphone.com/en-us/store/app/tip-calculator/6c7e06ba-de4e-4e96-8fc1-00ff256ace09>
- *Screen Check (January 2013)*  
Fills device screen with uniform colors to inspect screen's uniformity and find dead pixels  
BlackBerry 10, Cascades, QML, Qt4, C++  
<http://appworld.blackberry.com/webstore/content/20078160/>
- *Keep on Track (December 2012)*  
Personal time manager, written with BlackBerry 10 Cascades  
BlackBerry 10, Cascades, QML, Qt4, C++  
<http://appworld.blackberry.com/webstore/content/20384533>

**OpenSource Projects:**

- *PlantUML QEditor (August 2012 - Present)*  
Editor for PlantUML, written with Qt  
C++, Qt4, Qt5  
<https://sourceforge.net/projects/plantumlqeditor/>
- *Quake Report (September 2011)*  
Simple application that connects to USGS to retrieve the list of latest earthquakes and display them on an interactive map  
C++, Qt4, Meego Harmattan, Symbian, Networking, Location, GPS, Maps  
<http://sourceforge.net/projects/quakereport/>
- *Simple XBMC Remote (January 2011)*  
a remote control written in C++ and Qt4, for Maemo5 and N900  
<http://simple-xbmc-rem.sourceforge.net/>
- *ibocator (January 2010 – July 2010)*  
CD/DVD/HDD cataloging tool in C++ and QT4, for Linux  
<http://sourceforge.net/projects/ibocator/>
- *isohexengine (January 2007 – May 2007)*  
isometric game engine, using SDL, in C++  
<http://sourceforge.net/projects/isohexengine>
- *PyComicsViewer (December 2004 – March 2005)*  
comic book viewer, using PyGTK

<http://sourceforge.net/projects/pycomicsviewer/>

Volunteering:

- *GNU/Debian Developer (active between 1998 – 2001)*  
<http://www.debian.org/>
- *Nokia Qt Ambassador (2010 - 2012)*

Languages:

- English (advanced)
- Romanian (native)