# FILIP BÁRTEK

@ filip.bartek@hotmail.com  📞 +420 608 551 498  🌐 filipbartek.github.io  🐙 filipbartek  in filipbartek

## </> SKILLS

| | |
|---|---|
| Advanced | *C++, Google Test, Git* |
| Intermediate | *Python, CMake, Qt, qmake, Java, Maven, TeamCity, Doxygen* |
| Elementary | *Unity, C#, Valgrind, SageMath, SVN, Vagrant, Ansible* |

## 🏢 EMPLOYMENT

### *R&D Software Engineer*, BTL Medical Technologies CZ
Development and maintenance of an ECG signal processing library
*C++, Visual Studio*

2017-11 — 2018-11
Prague, Czech Republic

- Supervision of builds for two target platforms
- Cooperation with a team based in India
- Technologies: C++, Google Test, CMake, g++, TeamCity, Visual Studio 2015, GitLab, Ubuntu, Windows, JIRA, Doxygen, qmake, Qt Creator, C#, Python

### *R&D Software Engineer*, BTL India
Development of a medical device
*C++, Qt 5.5, Linux*

2016-09 — 2017-10
Bangalore, India

- Setup of cross-platform build system, automated tests, code quality metrics, performance measurements
- Technical job interviews
- Cooperation with a team based in Czech Republic
- Technologies: C++, Google Test, g++, Qt 5.5, qmake, QML, Qt Creator, GitLab, Ubuntu, JIRA, TeamCity, gcov, LCOV, SonarQube

### *Software developer*, Hobrasoft
Development of applications for Windows and Android
*Java, C++, Qt, Android*

2015-10 — 2016-09
Rožnov pod Radhoštěm, Czech Republic

- Design and development of two applications that deal with digital signatures extensively
- Prototype of a Qt-based Android app
- Technologies: Java, iText, Maven, NetBeans, C++, Qt 4.8, Qt 5, QML, OpenSSL, Qt Creator, Git, Phabricator, Windows, Ubuntu, Android

### *Summer Student*, CERN
Extension of Clang Static Analyzer with additonal checkers
*C++, Clang Static Analyzer*

2013-07 — 2013-09
Geneva, Switzerland

- Summer school combined with a practical project
- Technologies: C++, Clang Static Analyzer, Git, JIRA, Linux

### *Software Design Engineer*, Honeywell
Development of a device that helps testing of aeroplanes
*C++*

2012-04 — 2012-09
Brno, Czech Republic

- Software development, code analysis, system verification planning, documentation, cooperation with a team in the United States
- Technologies: C++, Visual Studio 6, SVN, Serena Dimensions CM, Windows

## 🎓 EDUCATION

### Master of Theoretical Computer Science, Charles University
- Master thesis: Minimum representations of Boolean functions defined by multiple intervals
- Main areas of interest: computational complexity, computationally hard problems, algorithms, artificial intelligence, robotics, computer game development, game studies

2012-09 — 2015-06
Prague, Czech Republic

### Bachelor of Mathematical Informatics, Masaryk University
- Bachelor thesis: Rabin Games on Finite Graphs [in Czech]

2008-07 — 2012-01
Brno, Czech Republic

## ★ PROJECTS

### Programmer, Ratata
A rhythm game for Windows
*Unity, C#*
- Collaboration of four creators of various backgrounds
- Created in 48 hours for Global Game Jam 2019

2019-01
Prague, Czech Republic

### Creator, nbspacer
Replaces regular spaces in HTML documents with non-breaking spaces (` `) where appropriate
*Python*
- Conservative (VCS-friendly) - leaves the rest of the document intact
- Supports two languages: Czech and English
- Hobby project

2016-05 — 2016-06
Dolní Bečva, Czech Republic

### Programmer, GeoSign
Assists Czech land surveyors in digitally signing documents and sending them to cadastre offices
*C++, Qt 4.8*
- Created for Hobrasoft

2015-10 — 2016-09
Rožnov pod Radhoštěm, Czech Republic

### Creator, PDF Manipulation Utility
A command-line tool for manipulation with PDF documents
*Java, iText, Maven*
- Supported operations: inspection of properties, adding a digital signature, attaching a file
- Extensive project documentation
- Created for Hobrasoft

2015-10 — 2016-09
Rožnov pod Radhoštěm, Czech Republic

### Creator, missls
Tactical nuclear warfare party minigame
*GameMaker: Studio*
- Originally created in 48 hours for the game jam Ludum Dare 32
- Placed in top 8 % in category Mood
- Interesting features: minimalistic design, vector graphics, 2D planetary physics

2015-04
Prague, Czech Republic

### Creator, Static Analysis Suite
Extension of Clang Static Analyzer with a custom checker
*Clang Static Analyzer*
- Feasibility study of replacement of Coverity with Clang Static Analyser
- Focus on multithreading bugs
- Created for CERN (group: PH/SFT) as a part of Summer Student Programme

2013-07 — 2013-09
Geneva, Switzerland

### Programmer, Magic Dance Dance Carpet
A magic carpet flight simulator
*Unreal Development Kit*
- Collaboration of five students of various backgrounds
- Interesting features: dance pad controls, concave world
- Created for the course Computer games development at Charles University

2012-11 — 2013-11
Prague, Czech Republic

## ➦ SAMPLES

### path_finding
Visualization of A* search

2015-01

### Stable roommates problem solver
An exercise in constraint programming
- Report

2014-09

### NokiaWebGL
Extracts a 3D map of a large region from a Nokia service

2014-06

### Stationary analysis of one channel queueing systems
A mathematical analysis of a class of queueing systems

2014-06

### slnkcctr
slnkcctr [slinky conductor] is a music toy that helps slinky jugglers to extend their performance with music.
- Report

2014-05

## ⚕ EXTRACURRICULAR

### Participant, Global Game Jam 2019
*Unity*

2019-01
Prague, Czech Republic

### Attendee, Game Developers Session
*Video game development*

2018-12
Prague, Czech Republic

### Attendee, Agile Open Space
*SCRUM*

2017-11
Prague, Czech Republic

### Student, Software Testing (online course)
*Python, Test driven development, Random testing*

2016-04

### Expert in English, Duolingo English Test

2015-07

### Participant, Ludum Dare 32
*GameMaker: Studio*

2015-04
Prague, Czech Republic