

</> SKILLS

Advanced	C++, Google Test, Git, Algorithmization
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 of a library for ECG signal processing 2017-11 — 2018-11
Prague, Czech Republic

C++, Visual Studio

- 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 firmware for a medical device 2016-09 — 2017-10
Bangalore, India

C++, Qt 5.5, Linux

- 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, Hobrosoft

Development of applications for Windows and Android 2015-10 — 2016-09
Rožnov pod Radhoštěm, Czech Republic

Java, C++, Qt, Android

- Design and development of a pair of applications that deal with digital signatures in PDF documents (GeoSign, PDFMU)
- Prototype of an 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

Evaluation of a static code analysis tool 2013-07 — 2013-09
Geneva, Switzerland

C++, Clang Static Analyzer

- Combination of summer school and a practical project
- Evaluation of Clang Static Analyzer as an alternative to Coverity
- Extension of Clang Static Analyzer with additional checkers
- Technologies: C++, Clang Static Analyzer, Git, JIRA, Linux

Software Design Engineer, Honeywell

Development of a device that helps testing of aeroplanes 2012-04 — 2012-09
Brno, Czech Republic

C++

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

EDUCATION

Master of Theoretical Computer Science, Charles University

2012-09 — 2015-06
Prague, Czech Republic

- 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

EXTRACURRICULAR

Participant, Topcoder Single Round Match (11 competitions)

Algorithmization, Competitive programming, C++, Python 2016-06 — Present

- Username: [filip.bartek](#)
- Rating: 1230 (percentile: 60 %)

Participant, Topcoder Quantum Computing Challenge Series

Python, Digital Annealer, QUBO, Optimization, Constraint programming 2019-02 — 2019-03

- 3 Learning Challenges and a Marathon Match

Participant, Google Hash Code 2019 Online Qualification Round

Python, Algorithmization, Optimization 2019-02
Prague, Czech Republic

- Team: Prague Pandas (two members)
- Rank: 581 of 6639 (percentile: 91 %)
- Source code: github.com/filipbartek/hashcode2019qualification

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

English 2015-07

- Score: 100 / 100

★ PROJECTS

Creator, [nbspacer](#)

Replaces regular spaces in HTML documents with non-breaking spaces (;) where appropriate 2016-05 — 2016-06
Python Dolní Bečva, Czech Republic

- Conservative (VCS-friendly) - leaves the rest of the document intact
- Supports two languages: Czech and English
- Hobby project

Programmer, [GeoSign](#)

Assists Czech land surveyors in digitally signing documents and submitting them to cadastre offices 2015-10 — 2016-09
C++, Qt 4.8 Rožnov pod Radhoštěm, Czech Republic

- Created for Hobrosoft

Creator, [PDF Manipulation Utility](#)

A command-line tool for manipulation with PDF documents 2015-10 — 2016-09
Java, iText, Maven Rožnov pod Radhoštěm, Czech Republic

- Supports inspection and modification of properties, digital signatures and attachments
- [Extensive project documentation](#)
- Created for Hobrosoft

Creator, [missls](#)

Tactical nuclear warfare party minigame 2015-04
GameMaker: Studio Prague, Czech Republic

- 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

Creator, [Static Analysis Suite](#)

Extension of Clang Static Analyzer with custom checkers 2013-07 — 2013-09
Clang Static Analyzer, C++ Geneva, Switzerland

- 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

Programmer, [Magic Dance Dance Carpet](#)

A magic carpet flight simulator 2012-11 — 2013-11
Unreal Development Kit Prague, Czech Republic

- Collaboration of five students of various backgrounds
- Interesting features: dance pad controls, concave world
- Created for the course [Computer games development](#) at Charles University

↪ SAMPLES

[path_finding](#)

Visualization of A* search 2015-01
SageMath, Python

[Stable roommates problem solver](#)

An exercise in constraint programming 2014-09
Prolog, clpfd, Constraint programming

- Report: filipbartek.github.io/srp/report.pdf

[NokiaWebGL](#)

Extracts a 3D map of a large region from a Nokia service 2014-06
Python

[Stationary analysis of one channel queueing systems](#)

Mathematical analysis of a class of queueing systems 2014-06
Mathematical modeling, LaTeX, SageMath

[slnkcctr](#)

slnkcctr [slinky conductor] is a music toy that helps slinky jugglers to extend their performance with music. 2014-05
C++, OpenCV

- [Report available at CoCalc](#)

↩ AFFILIATION

Member, [Sokratovské rozhovory z.s.](#)

Undergoing a training to become a facilitator of Socratic dialogue 2018-11 — Present
Czech Republic

” TESTIMONIALS

[Karthick N G \(manager\), BTL India](#)

2018-10
It was wonderful working together with you when I was at BTL. I remember our elaborate discussions and your piercing technical questions!
Your analytical approach and dedication to work make you a great asset for any software team.

[Nikhil Augustine \(co-worker\), BTL India](#)

2018-11
I just wanted to say a big Thank you at this moment, You may not have an idea of the amount you have influenced in my career. The working experience with you have made a big impact in the way how I approach the problems in our area of work.
I wish you all the best, Keep up the enthusiasm and dedication and keep inspiring others.