

## &lt;/&gt; 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
C++, Visual Studio	Prague, Czech Republic
<ul style="list-style-type: none"><li>Supervision of builds for two target platforms</li><li>Cooperation with a team based in India</li><li>Technologies: C++, Google Test, CMake, g++, TeamCity, Visual Studio 2015, GitLab, Ubuntu, Windows, JIRA, Doxygen, qmake, Qt Creator, C#, Python</li></ul>	

**R&D Software Engineer, BTL India**

Development of firmware for a medical device	2016-09 — 2017-10
C++, Qt 5.5, Linux	Bangalore, India
<ul style="list-style-type: none"><li>Setup of cross-platform build system, automated tests, code quality metrics, performance measurements</li><li>Technical job interviews</li><li>Cooperation with a team based in Czech Republic</li><li>Technologies: C++, Google Test, g++, Qt 5.5, qmake, QML, Qt Creator, GitLab, Ubuntu, JIRA, TeamCity, gcov, LCOV, SonarQube</li></ul>	

**Software developer, Hobrasoft**

Development of applications for Windows and Android	2015-10 — 2016-09
Java, C++, Qt, Android	Rožnov pod Radhoštěm, Czech Republic
<ul style="list-style-type: none"><li>Design and development of a pair of applications that deal with digital signatures in PDF documents (GeoSign, PDFMU)</li><li>Prototype of an Android app</li><li>Technologies: Java, iText, Maven, NetBeans, C++, Qt 4.8, Qt 5, QML, OpenSSL, Qt Creator, Git, Phabricator, Windows, Ubuntu, Android</li></ul>	

**Summer Student, CERN**

Evaluation of a static code analysis tool	2013-07 — 2013-09
C++, Clang Static Analyzer	Geneva, Switzerland
<ul style="list-style-type: none"><li>Combination of summer school and a practical project</li><li>Evaluation of Clang Static Analyzer as an alternative to Coverity</li><li>Extension of Clang Static Analyzer with additional checkers</li><li>Technologies: C++, Clang Static Analyzer, Git, JIRA, Linux</li></ul>	

**Software Design Engineer, Honeywell**

Development of a device that helps testing of aeroplanes	2012-04 — 2012-09
C++	Brno, Czech Republic
<ul style="list-style-type: none"><li>Software development, code analysis, system verification planning, documentation, cooperation with a team based in the United States</li><li>Technologies: C++, Visual Studio 6, SVN, Serena Dimensions CM, Windows</li></ul>	

## EDUCATION

**Master of Theoretical Computer Science, Charles University**

<ul style="list-style-type: none"><li>Master thesis: <a href="#">Minimum representations of Boolean functions defined by multiple intervals</a></li><li>Main areas of interest: computational complexity, computationally hard problems, algorithms, artificial intelligence, robotics, computer game development, game studies</li></ul>	2012-09 — 2015-06
	Prague, Czech Republic

## EXTRACURRICULAR

**Participant, Topcoder Single Round Match (10 competitions)**

Algorithmization, Competitive programming, C++, Python	2016-06 — Present
<ul style="list-style-type: none"><li>Username: <a href="#">filip.bartek</a></li><li>Rating: 1240 (percentile: 58 %)</li></ul>	

**Participant, Topcoder Quantum Computing - 3 Learning Challenges**

Python, Digital Annealer, QUBO, Optimization, Constraint programming	2019-02 — 2019-03
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**Participant, Google Hash Code 2019 Online Qualification Round**

Python, Algorithmization, Optimization	2019-02
<ul style="list-style-type: none"><li>Team: Prague Pandas (two members)</li><li>Rank: <a href="#">581 of 6639</a> (percentile: 91 %)</li><li>Source code: <a href="https://github.com/filipbartek/hashcode2019qualification">github.com/filipbartek/hashcode2019qualification</a></li></ul>	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
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**Expert in English, Duolingo English Test**

English	2015-07
<ul style="list-style-type: none"><li>Score: 100 / 100</li></ul>	

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## ★ PROJECTS

### Creator, [nbspacer](#)

Replaces regular spaces in HTML documents with non-breaking spaces (&nbsp; ) 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 Hobrasoft

### 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 Hobrasoft

### 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

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## ↪ 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](#)

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## ↩ AFFILIATION

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

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

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## ” 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.