Marc Heinrich

Software engineer

ADDRESS : Bordeaux (France)
EMAIL : contact@marcheinrich.fr
PHONE : +33 6 81 30 14 52
LINKEDIN : ↗

PROFILE

Software developer with 4 years of experience in C++/Qt. I have a solid knowledge of the good practices of software development. My education, more oriented on theory, gave me the tools to understand and analyse the programs I read and write. I am curious and love learning new things.

I am looking for a stimulating project where my skills can be useful.

PROFESSIONAL EXPERIENCE

2021 – Software developer in C++/Qt for the software R++ at Zebrys in Toulouse.
- Rebuilt the chart-editing module, transitioning from a legacy codebase to a modular implementation.
- Expanded the software's analytical capabilities by implementing two new statistical modules (PCA and Multiple-measure ANOVA), interfacing with R libraries.
- Modernized the release process by replacing Google Docs instructions with automated build scripts for Windows and MacOS, significantly reducing human error.
- Designed and maintained a custom license management portal and a lead-generation tool to streamline operations for the sales and support teams.
- Accelerated the migration to a distributed client-server architecture, implementing backend services to support remote processing.

2019 – 2021 Post-doctoral researcher at the university of Leeds, with Haiko Müller et Martin Dyer.
Subject : Counting problems and generating random solutions using Markov Chains.

2016 – 2019 Thesis at LIRIS, University Claude Bernard Lyon 1.
Subject : Reconfiguration and Combinatorial Games
Supervisors : Éric Duchêne, Sylvain Gravier, Nicolas Bousquet

SKILLS

Programming Languages : C++, Python, Javascript.
Basic notions of Java and Rust.

Libraries : Qt.

Languages : French (native), English (fluent).

Tools : Bash, Git, Bitbucket, Jira.
Some notions of Make and Cmake.

Other : Algorithms and complexity, Latex.

EDUCATION

2015 – 2016 Complex Systems master at ENS Lyon.
Internship : Operators of rules composition for combinatorial games with Éric Duchêne at LIRIS.

2014 – 2015 Master MPRI in Paris.
Internship : Distributed graph coloring with Pierre Fraignaud and Adrian Kosowski at LIAFA.

2012 – 2016 Student at École Normale Supérieure Paris.

2010 – 2012 Preparatory class at Lycée Saint Louis, Paris

SCIENTIFIC PUBLICATIONS

During my thesis and my post-doc, I published 4 articles in international journals, and 6 others in international conferences. An exhaustive list of my publications is available here :
https://hal.science/search/index/?q=*&authIdPerson_i=14099
I also received in 2020 an honourable mention for the Charles Delorme prize for my thesis. The Charles Delorme prize [1] rewards each year theses in algorithmic graph theory.

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1. Link : https://gtgraphes.labri.fr/pmwiki/pmwiki.php/PrixTheseDelorme/PrixTheseDelorme