

C++ developer

Maxime Pinard

23 years old

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Computer enthusiast, I recently graduated and am looking for a job as a C++ developer for early April 2020

Education and qualifications

Université du Québec à Chicoutimi

Master in computer science (double degree with UTBM)

Saguenay, Quebec, Canada

2018
2020

Université de Technologie de Belfort-Montbéliard

Computer science engineer diploma, imaging specialty, (eq. Master of Science)

Belfort, France

2016
2020

Université de Technologie de Belfort-Montbéliard

University degree in technology

Sèvenans, France

2014
2016

Lycée Louis Aragon (high school)

Baccalauréat with major in maths, with honours

Héricourt, France

2011
2014

Languages

French: Native language

English: Professional working level

Spanish: Moderate level

Japanese: Basic level

Computer skills

Languages: C++, C, Java, LaTeX/TikZ, Python, Bash, CUDA, SQL, HTML/CSS, Assembly, VBA...

Methods/Tools: Agile, Unit tests, Design patterns, UML, BPMN, git, CMake, Make, Clang Tools, Maven, Regex

Metaheuristics: Tabu search, simulated annealing, genetic algorithms, ant colony optimization algorithms, PSO

Libraries: boost, fmt, spdlog, OpenGL, OpenCV, OpenMP, MPI, GTest, Catch2, Capstone, Keystone, Json, SFML, ImGui, GLFW, GLM, libmpg123, TagLib, cxxopts,inja, JavaFx, JUnit4

System administration: GNU/Linux (Debian 8+), personal server for Java EE and Docker web services hosting

IDE: Visual Studio 2017/2019, CLion, IntelliJ IDEA

Work experiences

Institut de Recherche en Informatique, Mathématiques, Automatique et Signal, 6 months

Mulhouse, France

Research and software development intern

09/2019 - 02/2020

- Development of memetic hybrid metaheuristics for the Set Cover Problem and C++ high performance implementation
- Benchmark on the HPC cluster of the Strasbourg méso-centre and submission to 2 conferences

Ambulances Phoenix, 4 months

Héricourt, France

Ambulance technician, Patient care and transportation

07-08/2018, 07-08/2019

Direction Générale de l'Armement Maîtrise de l'Information, 6 months

Bruz, France

Software development intern

08/2017 - 01/2018

- Work on GenDbg, a multi languages, OS and architectures debugger:
 - Development in C of a disassembly module for MIPS architectures and the associated unit tests
- Work on YaCo, an IDA Pro plugin enabling collaborative reverse-engineering using Git:
 - Ported to C++ and improved Git repository management and IDA events handling

JAB France, 1 week

Evolène, Switzerland

Activities supervisor, Camp of 40 young people, team of 15 supervisor

02/2016

JAB France, 1 week

Contamines, France

Activities supervisor, Camp of 50 young people, team of 20 supervisor

02/2015

Souchier SAS, 4 weeks

Héricourt, France

Intern, Installation of gaskets and assembly of smoke evacuation systems

01/2015

Others qualifications

- French driving license
- PSC1, *French first aid certification*

Projects

Personal

- Header-only dynamic bitset implementation and unit tests [C++, Catch2] [dynamic_bitset](#)
- Music player [C++, ImGui, SFML, spdlog, libmpg123] [MagicPlayer](#)
- Utility functions to configure C/C++ projects (clang-format, ccache, sanitizers,...) [CMake] [CMutils](#)
- Number base converter, example ImGui/SFML [C++, ImGui, SFML] [BaseConverter](#)
- Console graphical library for Windows and Unix based systems [C] [ConsoleControl](#)
- Dungeon crawler with procedural levels generation [Java, JavaFx] [Raoul-the-Game](#)
- \LaTeX /TikZ implementation of the UTBM internship report covers [utbm-latex-internship-report-covers](#)
- \LaTeX /TikZ Beamer implementation of the UTBM presentation theme [utbm-beamer-theme](#)
- Multiplayer Snake like game (local network) [C++, SFML] [PapraGame](#)

Research

- Hyperplanes calculator in dimension 4 finite geometries, (performance oriented) [C++] [HyperplaneFinder](#)
> [publication \[1\]](#)

Internship

- Program for solving the Set Cover Problem [C++, dynamic_bitset, spglog, json, cxxopts] [Internship report \(fr\)](#)
- Program for processing Set Cover Problem results [C++, spglog, json, cxxopts,inja] [Internship report \(fr\)](#)
- Hex-Rays IDA collaborative reverse-engineering plugin [C++, GTest, IDA] [YaCo, Internship report \(fr\)](#)
- Assembly / disassembly module for MIPS processors assembly code [C, Capstone, Keystone, GTest] [Internship report \(fr\)](#)

Universities

- Algorithms for solving the Set Cover Problem [C++, spdlog, dynamic_bitset] [Set_cover_problem](#)
> Exhaustive search, Greedy, Branch and Bound, Simulated Annealing, Genetic and Memetic Algorithm
- Construction and render of a 3D parametric object with OpenGL [C++, GLFW, ImGui] [ParametricObjectsConstruction](#)
- MiniMetro clone: subway management simulator [Java, JavaFx] [MagicMetro](#)
- Pogo game with MinMax/AlphaBeta AI [C++, ConsoleControl] [Pogo](#)
- Multi-users file storage server [C++, SFML]

Publications

- [1] J. Boulmier, F. Holweck, M. Pinard, and M. Saniga, "Veldkamp spaces of low-dimensional ternary segre varieties," *Results in Mathematics*, vol. 74, no. 1, p. 54, Feb. 13, 2019, ISSN: 1420-9012. DOI: [10.1007/s00025-019-0974-2](#).

Interests

Computer science: Processor architecture, procedural generation, operational research, software optimization, cryptography, security and the evolution of quantum computing.

Science: Mathematics, physical system simulation, quantum physics...

Sport: Skiing and winter sports, cycling, mountain hiking, swimming (3h a week).