Computer science student
Maxime Pinard

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Student in the final year of a computer science Engineer and Master's degree program

Education and qualifications

Université du Québec à Chicoutimi   **Saguenay, Quebec, Canada**
Master in computer science   2018 – 2020
Currently in 3rd year, for a double degree with UTBM

Université de Technologie de Belfort-Montbéliard   **Belfort, France**
Computer science engineer diploma, imaging specialty, (eq. Master of Science)   2016 – 2020
3rd year done at UQAC for a double degree

Université de Technologie de Belfort-Montbéliard   **Sèvenans, France**
University degree in technology   2014 – 2016
Preparatory classes before the specialization

Lycée Louis Aragon (high school)   **Héricourt, France**
Baccalauréat with major in maths, with honours   2011 – 2014

Languages

French: Native language   **English**: B2 (BULATS 68), 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, 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

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.

Others qualifications

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

Work experiences

Institut de Recherche en Informatique, Mathématiques, Automatique et Signal, 6 months   **Mulhouse, France**
Stagiaire

09/2019 - 02/2020

o Development of memetic hybrid metaheuristics for the Set Cover Problem
   and C++ high performance implementation

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**
Intern

08/2017 - 01/2018

o Work on GenDbg, a multi languages / OS / architecture debugger:
   Development in C of a disassembly module for MIPS architectures and the associated unit tests
o 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

Projects

Personal

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

Research

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

Internship

o Hex-Rays IDA collaborative reverse-engineering plugin [C++, GTest, IDA]   *YaCo, Internship report (fr)*
o Assembly / disassembly module for MIPS processors assembly code [C, Capstone, Keystone, GTest]   *Internship report (fr)*

School

o 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
o Construction and render of a 3D parametric object with OpenGL [C++, GLFW, ImGui]   *ParametricObjectsConstruction*
o MiniMetro clone: subway management simulator [Java, JavaFx]   *MagicMetro*
o Pogo game with MinMax/AlphaBeta AI [C++, ConsoleControl]   *Pogo*
o Multi-users file storage server [C++, SFML]

Interests

Computer science: New programming paradigms, procedural generation, operational research, software optimization, cryptography 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).