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# Computer science student

Maxime Pinard

*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
*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
3rd year done at UQAC for a double degree

**Université de Technologie de Belfort-Montbéliard** — **Sèvenans, France**
*DEUTEC* — 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, JavaFx, JUnit4
**System administration**: GNU/Linux (Debian 8+), personal server for Java EE and Docker web services hosting
**IDE**: Visual Studio, JetBrains IntelliJ IDEA and CLion, Eclipse

## 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. 2019, ISSN: 1420-9012. DOI: 10.1007/s00025-019-0974-2.

## Others qualifications

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

## Work experiences

**Ambulances Phoenix, 2 months** — **Héricourt, France**
*Ambulance technician, Patient care and transportation*
*07/2019*

**Ambulances Phoenix, 2 months** — **Héricourt, France**
*Ambulance technician, Patient care and transportation*
*07/2018 - 08/2018*

**Direction Générale de l'Armement Maîtrise de l'Information, 6 months** — **Bruz, France**
*Intern*
*08/2017 - 01/2018*

- Work on GenDbg, a multi languages / OS / architecture 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*

## Projects

### Personal

- Header-only dynamic bitset implementation [C++] — *dynamic_bitset*
- Music player [C++, ImGui, SFML, spdlog, libmpg123] — *MagicPlayer*
- 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

- 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)*

### School

- 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]

## 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 biking in a club for 3 years), mountain hiking.