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Antoine MORRIER

C++ Software Engineer

Experience

2023–Present **Freelance Software Developer**, Montpellier
Modern C++, Qt/QML, Workshops, Training, Consulting, and Software Architecture.
Organizer of the C++ Meetup Montpellier
Writing articles about C++ and rendering on my blog: cpp-rendering.io.

- **SLB (Schlumberger, 2023–Present)**: Techlog Team
  Techlog is a market-leading digital solution for the wellbore industry. It is used by geologists and petrophysicists. Working within a team of 30 people, I achieved the following.
  - Designed a compile-time guaranteed thread-safe framework.
  - Refactored core components of the Techlog software.
  - Improved overall performance.
  - Delivered workshops and training sessions to present new modern C++ features and show how they can be applied to make the codebase simpler and more efficient.
- **Diagdev (2025–2 months)**: Developer team
  For a one-time need, Diagdev called upon my services to help with various aspects, such as bug fixing and improving compilation times. Compilation times were the main focus of my assignment, as resource consumption during compilation rendered the computer unusable. Results:
  - 22 minutes to 9 minutes for a full build.
  - Faster incremental builds (as fewer files need to be recompiled).
  - Estimated gain: 0.8 days per week per developer.
  - Some bugs fixed.

Used technologies: C++, Qt, OpenGL, Vulkan, QML, QtQuick

2019–2023 **C++ Software Engineer**, *Diagdev*, Castries
Diagdev is an engineering firm that designs machines related to hematology. The company is made up of around forty people from various backgrounds: electronics engineers, developers, mechanical engineers... The development team consists of 5 people. The projects I was assigned to were

- A slide stainer: used to stain slides to help biologists perform manual cell counting.
- A blood analyzer: from a tube of blood, it extracts the blood formula (red blood cells, white blood cells).

My tasks were:

- Worked with modern C++ (C++17) and Qt5 Framework on Hematology-related devices.
- Built a variant-based message communication with the underlying micro-controllers.
- Implemented tools to reduce boilerplate in interactions between C++ code and QML.
- Participated in the development of the blood cell classification algorithm.
- Presented modern C++ features to the team.

Used technologies: C++, Python, QML, Qt, QtQuick

2017–2018 **C++ Software Engineer**, *Ausy / Airbus*, Sophia Antipolis

Airbus Defence and Space develops Pixel Factory, a software solution for analyzing satellite images or aerial views (for example, from an aircraft). I was assigned to the team developing visualization software for bundle adjustment results. From control points extracted from satellite images, we would locate them in the associated 3D model. We were 2 developers, plus a project manager.

- Worked on software for search and visualization of tie points and ground control points on drone, aerial, and satellite imagery for 3D modeling and mapping.
- Developed and integrated multithreaded modules, user interfaces, and services for projection between different geodetic systems.
- Developed new track visualization and non-geolocated 3D model visualization features.

Used technologies: C++, Qt

2017 **Temporary Instructor**, *Télécom SudParis*, Evry

- Created and delivered a complete modern OpenGL course for engineering students at Télécom SudParis and ENSIIE.

Education

2014–2018 **Engineering student**, *Télécom SudParis*, Evry, France

- High-Tech Imaging: specialization in image processing.

Skills

Languages C++ 26, QML, Rust

Framework Qt and QtQuick

Rendering OpenGL 4+ / Vulkan

GPGPU GLSL(Compute Shaders)

Miscellaneous CMake, Git

Interests

Cars Track driving

Science Maths, Physics