

# SIDNEY CONGARD

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## WORK EXPERIENCE

*Fixed-term contract: May 2023 — September 2023*

R&D engineer • Gallinette - INRIA • France, Nantes

Worked on « Aeneas » (see below) to obtain a formalism extending some features and preserving linearity.

*Fixed-term contract: November 2022 — March 2023*

R&D engineer • Prosecco - INRIA • France, Paris

Implemented Coq support for Aeneas, aiming for an idiomatic representation. Includes custom tactics for partial automation.

*Internship: May 2022 — September 2022*

R&D intern • Prosecco - INRIA • France, Paris

Worked on Aeneas, a framework translating safe Rust programs into a proof assistant:

- Implementing support for global variables
- Refactoring the Rust compiler plugin
- Elaborating a join operation, a first step towards translating loops

*Permanent contract: April 2019 — August 2021*

C++ R&D engineer • QuasarDB • France, Paris

- Added features into the database query language, proposed & worked on a redesign of the query engine, based on a new DSL adapted to carry operations on the distributed database.
- Improved performances on critical paths, such as the serialization protocol.
- Proposed & implement some changes about the internal architecture, such as the handling of objects created by the client API.
- Created a tool used to clone a cluster, allowing it to progress & keep a coherent state despite being interrupted then restarted.

*Internship: October 2018 — March 2019*

C++ programmer • QuasarDB • France, Paris

Improved a high-speed CSV ingestion tool for the company database :

- Changed the tool global architecture
- Added benchmarks
- Improved the performances about parsing the CSV
- Added capabilities to autofill or interactively ask about the missing parts of the CSV format

*Internship: June 2017 — July 2017*

C# Internship • Zenidoc • France, Marseille

Developped multiple C# applications, including a COM server and graphical interfaces.

## EDUCATION

*2021 — 2022*

Mathematical logic & computer science master (LMFI) • Université Paris-Cité • Paris, France

Formal verification, type theory, calculability, set theory, model theory, category theory. Ranked 11th/29.

*2017 — 2018*

Computer science master • UQAC • Université du Québec à Chicoutimi, Canada

Distributed databases, data mining, game engines conception.

*2015 — 2017*

Computer science engineer • Polytech' Marseille • Université d'Aix-Marseille, France

Algorithms, distributed programming, network, graphics programming, optimisation.

*2013 — 2015*

Preparatory School to Grandes Ecoles • Lycée Schweitzer • Mulhouse, France

Majoring in maths & physics, with computer science in option.