

Alban Dutilleul

COMPUTER SCIENCE STUDENT AT ENS RENNES

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Research

Research internship, University of Murcia

ALIAS ANALYSIS FOR A HW/SW CO-DESIGNED CACHE COHERENCE PROTOCOL

- Supervisor(s): Alexandra Jimborean, Alberto Ros
- Keywords: Alias analysis, Cache coherence, Hardware-Software Co-design

Murcia, Spain

Mars. 2024 - Jul 2024

Research internship, INRIA

THROUGHPUT ANALYSIS FOR CODE SPECIFIC PATTERNS

- Supervisor(s): Fabrice Rastello
- Keywords: Microarchitecture modeling, Performance analysis

Grenoble, France

Sept. 2023 - December 2023

Summer Research Internship, University of Edinburgh

DESIGNING AN MLIR BACKEND FOR MICROKERNELS

- Supervisor(s): Tobias Grosser
- Keywords: Microkernels, MLIR, RISC-V

Edinburgh, UK

May 2023 - August 2023

Master's Research Project, IRISA

COMPILER-ASSISTED NVM RESTORE CONTROLLER FOR INTERMITTENTLY-POWERED SYSTEMS

- Supervisor(s): Erven Rohou, Olivier Sentyies
- Keywords: Dataflow analysis, Hardware-Software Co-design, RISC-V

Rennes, France

Sept. 2022 - May 2023

Summer Research Internship, IRISA

DYNAMIC BINARY REWRITING FOR CODE LAYOUT OPTIMIZATION

- Supervisor(s): Erven Rohou, Manuel Serrano
- Keywords: Dynamic binary rewriting, Profile guided optimization, Binary instrumentation and analysis

Rennes, France

May. 2022 - August 2022

Publications

2024 **Performance bottlenecks detection through microarchitectural sensitivity [PDF]**, Preprint, Submitted at *USENIX 2024*

Skills

Programming languages Rust, C, C++, C#, Python, OCaml, ASM (x86_64, RISC-V)

Markup languages \LaTeX

Education

École Normale Supérieure de Rennes

RESEARCH-YEAR IN COMPILERS (PRELAB YEAR)

- A year consisting of two research internships in compilers, one in Grenoble, France, and the other in Murcia, Spain.

Grenoble, France & Murcia, Spain

2023 - 2024

University of Rennes & École Normale Supérieure de Rennes

MASTER'S DEGREE IN COMPUTER SCIENCE

- Research-oriented curriculum.
- First year of the Master's degree in Computer Science, done in 2022-2023.
- Second year of the Master's degree in Computer Science, done in 2024-2025.

Rennes, France

2022 - 2025

University of Rennes & École Normale Supérieure de Rennes

B.S. IN COMPUTER SCIENCE

- Research-oriented curriculum.

Rennes, France

2021 - 2022

University of Brest

B.S. IN COMPUTER SCIENCE

- Valedictorian

Brest, France

2019 - 2021

- Scientific major in mathematics.

Miscellaneous

Languages French (*native*); English (*fluent*); German (*Minimum Professional Proficiency*)

Licenses French driving license (B2)