

Arthur Gontier

Age : 25

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PhD Student in Computer Science

Profile: Motivated and competent PhD researcher with experience in a big variety of solving techniques. Interested in solver enhancement, new modelisation challenges, and looking forward to encounter new research topics.

Education

- **PhD in Symmetric cryptography analysis with declarative languages** 2020-2023
Université de Rennes 1
- **Master's Degree: Optimisation and Operational Research** 2018-2020
Université de Nantes and Université Libre de Bruxelles
- **Bachelor's Degree: Mathematics and Computer Science** 2015-2018
Université de Nantes *valedictorian*
- **CEM: End of Musical Studies of Clarinette** 2015

Teaching

- **Graph theory** 2020
Université de Rennes 1, Bachelor 3
- **Mixed Integer Linear programming** 2020
Université de Rennes 1, Master 1
- **Functional Programming** 2021
INSA Rennes, Master 1
- **Computer science** 2021-2023
Université de Rennes 1, Bachelor 1

Publications

- **New algorithm for exhausting optimal permutations for generalized feistel networks** INDOCRYPT 2022
- **Diffusion totale dans le schéma de Feistel généralisé** ROADEF 2022
- **A simpler model for recovering superpoly on trivium** SAC 2021
Selected Areas of Cryptography
- **Conflict analysis in CP solving:** CPTAI 2020
Explanation generation from constraint decomposition

Internships and Projects

- **Automatic explanation generation for discrete solvers** 2020
Research Internship at LS2N team TASC
- **Revised Simplex and LU decomposition for multi-criteria simplex** 2019
Research Internship at LS2N team SLP
- **Static program analysis: from synchronous languages to horn clauses** 2018
Research Internship at LIP, Ecole Normale Supérieure de Lyon team CASH
- **Development of a CP solver for the SGP and STS problems** School Projet
- **ROADEF 2005 challenge solutions up to three objective optimisation** School Projet

Skills

Programming

C++, Ocaml, Julia, Java, Python, Latex, html

Languages

French
English

Solving techniques

CP, MILP, SAT, SMT and Multi-threaded dedicated methods

Others

Secretary in a orchestra association

Global Game Jam 2016

(Concert organisation)

(Video Game development in 48h)