



# Florian Ingels

## Employment

- 2023 – **Postdoctoral fellow, Bonsai Team, CRISTAL, Université de Lille.**  
Funded by Full-RNA ANR.
- 2022 – 2023 **Head of Algorithmic Research, Aniah, Grenoble.**
- 2019 – 2022 **PhD candidate, Inria team Mosaic, École Normale Supérieure de Lyon.**  
Funded by European Commission's H2020 project ROMI.

## Education

- 2019 – 2022 **PhD in Mathematics, Inria team Mosaic, École Normale Supérieure de Lyon.**  
Thesis : *On the similarities of trees : the interest of enumeration and compression methods.* Advisors : Christophe Godin & Romain Azaïs.
- 2018 – 2019 **Master's Degree 2nd year in Operations Research, Combinatorics and Optimization, Université Joseph Fourier, Grenoble.**  
Valedictorian. 6 month internship at Inria team Mosaic, under the supervision of Romain Azaïs.
- 2017 – 2018 **Master's Degree 1st year in Applied Mathematics and Statistics, Université Claude Bernard, Lyon.**  
Valedictorian. Participation in the 2018 Data Challenge organized by the French Society of Statistics. 3 month internship at Inria team Mosaic, under the supervision of Romain Azaïs.
- 2015 – 2016 **Bachelor's Degree in Advanced Mathematics, École Normale Supérieure de Lyon.**  
Participation in a study group on mathematical tools for the study of big data. 3 month internship at LAMA, Université de Savoie Mont-Blanc, under the supervision of Jean-Louis Verger-Gaugry.
- 2012 – 2015 **Classe préparatoire aux grandes écoles, Lycée Berthollet, Annecy, MPSI/MP\*.**  
Intensive study course preparing for the competitive entrance examinations to the French “Grandes Écoles” (the top French and highly-selective institutions). Major in Mathematics, minor in Computer Science.

## Teaching

### University lectures

- 2023 – 2024 **Linear Models, Université de Lille.**  
18h. For Bachelor's students ; Computer Science department.
- 2023 – 2024 **Logic, Université de Lille.**  
18h. For Bachelor's students ; Computer Science department.
- 2021 – 2022 **Optimization & Operations Research, Université Claude Bernard, Lyon.**  
30h. For Master's students ; Computer Science department.
- 2020 – 2021 **Numerical algorithms & optimization, Université Claude Bernard, Lyon.**  
30h. For Bachelor's students ; Computer Science department.  
**Fundamental mathematical techniques, Université Claude Bernard, Lyon.**  
18h. For Bachelor's students ; Mathematics department.
- Optimization & Operations Research, Université Claude Bernard, Lyon.**  
15h. For Master's students ; Computer Science department.

- 2019 – 2020 **Numerical algorithms & optimization**, Université Claude Bernard, Lyon.  
 30h. For Bachelor's students ; Computer Science department.
- Statistics for Computer Science & Probability**, Université Claude Bernard, Lyon.  
 22h. For Bachelor's students ; Mathematics department.
- Recursive programming & algorithms**, Université Claude Bernard, Lyon.  
 12h. For Bachelor's students ; Computer Science department.

### Others

- 2016 – 2021 **Private teacher**.  
 350h+. Mentoring for online mathematics and computer science courses.

- 2015 – 2016 **Examiner for “classe préparatoire aux grandes écoles”**, Lycée St-Just, Lyon.  
 3h/week. Graded individual exams (mathematics exercises) for business students.

## Publications

- 2023 **Detection of Common Subtrees with Identical Label Distribution**, Romain Azaïs & Florian Ingels.  
 Preprint, under review.
- 2022 **Enumeration of Irredundant Forests**, Florian Ingels & Romain Azaïs.  
*Theoretical Computer Science*, volume 922, pages 312-334.
- 2021 **Isomorphic Unordered Labeled Trees up to Substitution Ciphering**, Florian Ingels & Romain Azaïs.  
*Combinatorial Algorithms*, IWOCA 2021. Lecture Notes in Computer Science, volume 12757.
- 2020 **The Weight Function in the Subtree Kernel is Decisive**, Romain Azaïs & Florian Ingels.  
*Journal of Machine Learning Research*, volume 21.
- 2019 **treex : a Python package for manipulating rooted trees**, Romain Azaïs, Guillaume Cerutti, Didier Gemmerlé & Florian Ingels.  
*Journal of Open Source Software*.

## Talks

- July 2021 **Isomorphic Unordered Labeled Trees up to Substitution Ciphering**, Florian Ingels & Romain Azaïs.  
*32nd International Workshop on Combinatorial Algorithms* (IWOCA), Online
- December 2020 **A Reverse Search Method for the Enumeration of Unordered Forests using DAG Compression**, Florian Ingels & Romain Azaïs.  
*4th International Workshop on Enumeration Problems and Applications* (WEPA), Online
- June 2019 **De l'importance de la fonction de poids dans le noyau des sous-arbres**, Florian Ingels & Romain Azaïs.  
*51e Journées de Statistiques*, Nancy