Igor **Martayan**

PhD student in Computer Science at Univ Lille

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imartayan
23 years old

Experience

Since October 2023 **PhD in Computer Science**, *Bonsai team*, Univ. Lille, France
"Locality-preserving representation of *k*-mer sets"
Supervised by Jean-Stéphane Varré and Camille Marchet

Research internships and projects

Mars-July 2023 **Research intern**, *Bonsai team*, Univ. Lille, France
Locality-preserving representation of *k*-mer sets.
Supervisor: Antoine Limasset.

February-June 2022 **Semester research project**, *Theory group*, EPFL, Switzerland
Forest augmentation problem.
Supervisor: Ola Svensson.

May-July 2021 **Research intern**, *GenScale team*, INRIA Rennes, France
Fragmented alignment method for long genomic sequences.
Supervisor: Dominique Lavenier.

Education

2022–2023 **Master's Degree in Computer Science**, *Parisian Master of Research in Computer Science*, Paris, France

Spring 2022 **Exchange semester**, *École Polytechnique Fédérale de Lausanne*, Lausanne, Switzerland

2021–2022 **First year of Master in Computer Science**, *ENS Rennes*, Rennes, France

2020–2021 **Bachelor's Degree in Computer Science**, *ENS Rennes*, Rennes, France

2017–2020 **MPSI/MP* Preparatory classes**, *Lycée Thiers*, Marseille, France
Mathematics specialization, computer science option.

2017 **Scientific Baccalaureate**, *Lycée Thiers*, Marseille, France
Honors: *summa cum laude*, mathematics specialization.

Publications

I. Martayan, B. Cazaux, A. Limasset, and C. Marchet, "Conway-Bromage-Lyndon (CBL): an exact, dynamic representation of k-mer sets," in *32nd International Conference on Intelligent Systems for Molecular Biology (ISMB 2024)*, 2024. DOI: 10.1101/2024.01.29.577700.

T. Rouzé, I. Martayan, C. Marchet, and A. Limasset, "Fractional Hitting Sets for Efficient and Lightweight Genomic Data Sketching," in *23rd International Workshop on Algorithms in Bioinformatics (WABI 2023)*, 2023. DOI: 10.4230/LIPIcs.WABI.2023.15.

Preprints

F. Ingels, I. Martayan, M. Salson, and C. Marchet, "Constrained enumeration of k-mers from a collection of references with metadata," *bioRxiv*, 2024. DOI: 10.1101/2024.05.26.595967.

Teaching

2023–2024 **TA in information theory**, *Computer Science Bachelor*, Univ Lille

2023–2024 **TA in Javascript**, *Computer Science Bachelor*, Univ Lille

Relevant skills

Imperative Rust, C, C++, Python, Javascript, Java
Functional OCaml, Scala, Coq, Isabelle/HOL
Other LaTeX, Bash, Git

Languages

French Native
English Fluent
German Intermediate