Christian Janos Lebeda

Postdoc
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CV last updated: December 2024

Research Experience

Fall 2024- **Postdoc**, *Inria, University of Montpellier*, France.

Fall 2023-Spring 2024 **Postdoc**, *Algorithms Group, IT University of Copenhagen*, Denmark.

2020-2023 **PhD Student**, *Basic Algorithms Research Copenhagen (BARC) & Algorithms Group, IT University of Copenhagen*, Denmark.

Education

2020–2023 **PhD**, *Basic Algorithms Research Copenhagen & IT University of Copenhagen*, Advisors: Rasmus Pagh & Martin Aumüller.
Thesis title: Differentially Private Release of Sparse and Skewed Data.

2018–2020 **Computer Science (MSc)**, *IT University of Copenhagen*, Denmark.
Specialization: Algorithms.
Thesis title: HomSub: Counting small subgraphs via homomorphisms.

2015–2018 **Software Development (BSc)**, *IT University of Copenhagen*, Denmark.

Publications

SaTML 2025 **Avoiding Pitfalls for Privacy Accounting of Subsampled Mechanisms under Composition**, *Gautam Kamath, Christian Janos Lebeda, Matthew Regehr, and Thomas Steinke*, Conference on Secure and Trustworthy Machine Learning (Accepted for Publication).

SOSA 2025 **Better Gaussian Mechanism using Correlated Noise**, *Christian Janos Lebeda*, Symposium on Simplicity in Algorithms (Accepted for Publication).

SOSA 2025 **Testing Identity of Distributions under Kolmogorov Distance in Polylogarithmic Space**, *Christian Janos Lebeda and Jakub Těmek*, Symposium on Simplicity in Algorithms (Accepted for Publication).

PETS 2024 **PLAN: Variance-Aware Differentially Private Mean Estimation**, *Martin Aumüller, Christian Janos Lebeda, Boel Nelson, and Rasmus Pagh*, Privacy Enhancing Technologies Symposium.

AFT 2023 **Correlated-Output Differential Privacy and Applications to Dark Pools**, *James Hsin-yu Chiang, Bernardo David, Mariana Gama, and Christian Janos Lebeda*, Advances in Financial Technologies.

PODS 2023 **Better Differentially Private Approximate Histograms and Heavy Hitters using the Misra-Gries Sketch**, *Christian Janos Lebeda and Jakub Tětek*, Distinguished Paper, Principles of Database Systems. Also recognized with a 2024 ACM SIGMOD Research Highlight Award.

JPC 2022 **Representing Sparse Vectors with Differential Privacy, Low Error, Optimal Space, and Fast Access**, *Martin Aumüller, Christian Janos Lebeda, and Rasmus Pagh*, Invited to TPDP 2021 Special Edition, Journal of Privacy and Confidentiality.

CCS 2021 **Differentially Private Sparse Vectors with Low Error, Optimal Space, and Fast Access**, *Martin Aumüller, Christian Janos Lebeda, and Rasmus Pagh*, ACM Conference on Computer and Communications Security.

Preprints

2024 **The Correlated Gaussian Sparse Histogram Mechanism**, *Christian Janos Lebeda and Lukas Retschmeier*.

Posters

TPDP 2024 **Better Gaussian Mechanism using Correlated Noise**, *Christian Janos Lebeda*, link.

TPDP 2023 **Better Differentially Private Approximate Histograms and Heavy Hitters using the Misra-Gries Sketch**, *Christian Janos Lebeda and Jakub Tětek*, link.

TPDP 2022 **Differentially Private Vector Aggregation when Coordinates have Different Sensitivity**, *Christian Janos Lebeda and Rasmus Pagh*, link.

TPDP 2021 **Differentially Private Sparse Vectors with Low Error, Optimal Space, and Fast Access**, *Martin Aumüller, Christian Janos Lebeda, and Rasmus Pagh*, link.

Collaborations

Winter Term 2023 **Research Visit**, *University of Waterloo (The Salon)*, Host: Gautam Kamath.

Summer 2021 **OpenDP Visiting Fellows Program**, *Harvard Privacy Tools*, Host: Salil Vadhan.

Teaching Experience

Fall 2023 **Foundations of Probability**, *Course Manager*, Data Science (BSc).

Spring 2021 & 2022 **Algorithmic Problem Solving**, (Elective Course) Software Development (BSc) and Data Science (BSc).

2016-2020 **Employed as Teaching Assistant 9 times across 5 courses**.

Selected Talks

2024 **PLAN: Variance-Aware Differentially Private Mean Estimation**, *Privacy Enhancing Technologies Symposium*.

2024 **Introduction to Differential Privacy (Invited presentation)**, *IT and Development Agency of the Danish Ministry of Taxation (Udviklings- og Forenklingsstyrelsen)*.

2024 **Better Differentially Private Approximate Histograms and Heavy Hitters using the Misra-Gries Sketch**, *Algorithmic Research: Cooperation around Oresound (ARCO)*.

2024 **Practical use cases of Differential Privacy**, *Danish Digitalization, Data Science and AI (D3A) Conference: Privacy Preserving Computation Workshop*.

2023 **Better Differentially Private Approximate Histograms and Heavy Hitters using the Misra-Gries Sketch**, *Theory and Practice of Differential Privacy Workshop (TPDP)*.

2023 **Better Differentially Private Approximate Histograms and Heavy Hitters using the Misra-Gries Sketch**, *Principles of Database Systems (PODS)*.

2021 **Differentially Private Release of Histograms**, *Algorithmic Research: Cooperation around Oresound (ARCO)*.

2021 **Differentially Private Sparse Vectors with Low Error, Optimal Space, and Fast Access**, *ACM Conference on Computer and Communications Security (CCS)*, (virtual).

2021 **OpenDP Library: Contributor Showcase - The ALP Mechanism**, *OpenDP Community Meeting 2021*, (virtual).

2021 **Differentially Private Sparse Vectors with Low Error, Optimal Space, and Fast Access**, *Digital Research Centre Denmark (DIREC)*.

Selected Service

2024- **Board Member/Reviewer**, *OpenDP Privacy Proof Review Board*, link.

2024 **PC member**, *Theory and Practice of Differential Privacy Workshop (TPDP)*.