Mohamed NDAOUD

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Department: Information Systems, Data Analytics and Operations
ESSEC Business School
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RESEARCH INTERESTS

Statistical Data Analysis, Decision Sciences, Probability Theory & Mathematical Statistics,

EDUCATION

2019 Doctorate in Mathematical Statistics, University Paris-Saclay, France
High dimensional statistics

2016 Master of Science, Finance, Université Pierre et Marie Curie (UPMC), France

2015 Master of Engineering, Mathematics, École Polytechnique, France

EMPLOYMENT

Full-time academic positions

2024 - Present Associate Professor, ESSEC Business School, France

2021 - 2024 Assistant Professor, ESSEC Business School, France

Other affiliations and appointments

2021 - 2027 Chaired Professor « Data Science », ESSEC Business School, France

GRANTS AND HONORS

Awards and Honors

2020 IMS New Researcher Travel Award

2019 Best Student Paper Award

Grants

2020 Zumberge Individual Award 2020, University of South California (USC), United States of America

PUBLICATIONS

Journal Articles

NDAOUD, M. (2026). Robust Regression under Adversarial Contamination: Theory and Algorithms for the Welsch Estimator. *Journal of the American Statistical Association*, In press, pp. 1-41.

MINSKER, S. and NDAOUD, M. (2025). Classification in the high dimensional Anisotropic mixture framework: A new take on Robust Interpolation. *Journal of Machine Learning Research*, 26(153), pp. 1-39.

MINSKER, S., NDAOUD, M. and WANG, L. (2024). Robust and Tuning-Free Sparse Linear Regression via Square-Root Slope. *SIAM Journal on Mathematics of Data Science*, 6(2), pp. 428-453.

NDAOUD, M. (2023). Harmonic analysis meets stationarity: A general framework for series expansions of special Gaussian processes. *Bernoulli: A Journal of Mathematical Statistics and Probability*, 29(3), pp. 2295 - 2317.

BUTUCEA, C., MAMMEN, E., NDAOUD, M. and TSYBAKOV, A.B. (2023). Variable selection, monotone likelihood ratio and group sparsity. *Annals of Statistics*, 51(1), pp. 312-333.

NDAOUD, M., SIGALA, S. and TSYBAKOV, A. (2022). Improved clustering algorithms for the Bipartite Stochastic Block Model. *IEEE Transactions on Information Theory*, 68(3), pp. 1960-1975.

NDAOUD, M. (2022). Sharp optimal recovery in the two Component Gaussian Mixture Model. *Annals of Statistics*, 50(4), pp. 2096-2126.

COMMINGES, L., COLLIER, O., NDAOUD, M. and TSYBAKOV, A. (2021). Adaptive robust estimation in sparse vector model. *Annals of Statistics*, 49(3), pp. 1347-1377.

MINSKER, S. and NDAOUD, M. (2021). Robust and efficient mean estimation: an approach based on the properties of self-normalized sums. *The Electronic Journal of Statistics*, 15(2), pp. 6036-6070.

NDAOUD, M. and TSYBAKOV, A. (2020). Optimal variable selection and adaptive noisy Compressed Sensing. *IEEE Transactions on Information Theory*, 66(4), pp. 2517-2532.

BUTUCEA, C., NDAOUD, M., STEPANOVA, N. and TSYBAKOV, A.B. (2018). Variable selection with Hamming loss. *Annals of Statistics*, 46(5), pp. 1837-1875.

Conference proceedings

NDAOUD, M. (2019). Interplay of minimax estimation and minimax support recovery under sparsity. In: *Algorithmic Learning Theory (ALT)*. Proceedings of Machine Learning Research.

Conferences

NDAOUD, M. (2025). On some recent advances in high dimensional binary sub-Gaussian mixture models. In: 2025 Heidelberg-Paris Workshop on Mathematical Statistics. Heidelberg.

NDAOUD, M. and KARAGULYAN, V. (2024). Improved Mean Estimation in the Hidden Markovian Gaussian Mixture Model. In: 2024 International Symposium on Nonparametric Statistics. Braga.

NDAOUD, M. and MINSKER, S. (2022). Adaptive Robust and Sub-Gaussian Deviations in Sparse Linear Regression. In: 2022 Institute of Mathematical Statistics (IMS) International Conference on Statistics and Data Science (ICSDS). Florence.

BUTUCEA, C., MAMMEN, E., NDAOUD, M. and TSYBAKOV, A.B. (2022). Variable selection, monotone likelihood ratio and group sparsity. In: 2022 Institute of Mathematical Statistics (IMS) Annual Meeting. London.

NDAOUD, M. and MINSKER, S. (2022). Adaptive Robustness and sub-Gaussian Deviations in Sparse Linear Regression through Pivotal Double SLOPE. In: Re-thinking High-dimensional Mathematical Statistics. Oberwolfach.

TEACHING EXPERIENCE

2021	Analysis of Variance and Design, University of South California (USC), États-Unis
2020	Foundations of Statistical Learning Theory, University of South California (USC),
2019	Statistical Inference and Data Analysis, University of South California (USC), États-