CHEIK TRAORÉ

PhD candidate, Università di Genova

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Email ⋄ cheiktraore.com ⋄ Google Scholar ⋄ Github

INTERESTS

Broadly speaking, I am interested in the mathematics of data science. Specifically, my interests lie at the intersection of continuous optimization and data science (machine learning, deep learning, statistical learning, sampling, signal processing, inverse problems, etc.).

ACADEMIC AND RESEARCH POSITIONS

Research fellow *Starts in June 2024*
Working with Silvia Villa and Lorenzo Rosasco
MaLGa Machine Learning Genoa Center
Dipartimento di Matematica (DIMA)
Università degli Studi di Genova, Italy

EDUCATION

PhD in Mathematics and Applications *November 2020 - May 2024*
MSCA[1] Doctoral Network, TraDE-OPT
Università degli Studi di Genova, Italy
Worked on convex optimization for data sciences
Thesis: *Large scale convex optimization:*
parallelization and variance reduction
Supervisors: Silvia Villa, Saverio Salzo

MSc in Mathematics, Vision, Learning *October 2019 - September 2020*
École Normale Supérieure Paris-Saclay, France
Thesis: *Convergence of the iterates generated by AdaGrad*
Supervisor: Édouard Pauwels

MSc in Mathematical Sciences *August 2016 - February 2018*
African Institute for Mathematical Sciences, Senegal

Maitrise in Applied Mathematics *October 2014 - September 2015*
Université Nazi Boni, Burkina Faso

BSc in Fundamental Mathematics *October 2013 - September 2014*
Université Nazi Boni, Burkina Faso

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[1] Marie Skłodowska-Curie Actions

AWARDS AND HONORS

Mastercard Foundation Scholarship	*2016*
Burkina Faso National Scholarship	*2008*

RESEARCH MOBILITIES

Research secondment   *April 2023 - September 2023*
Worked separately with François Glineur (UCLouvain) and
   Medhi Madani (N-side)
Belgium

Research secondment (online)   *November 2022 - February 2023*
Worked with Ion Necoara
University Politehnica Bucharest, Romania

Research intern (mostly online, Covid19)   *April 2020 - October 2020*
Worked with Édouard Pauwels
Université Toulouse III - Paul Sabatier, France

PUBLICATIONS

PREPRINTS (under review)

[1] TRAORÉ, C., APIDOPOULOS, V., SALZO, S., AND VILLA, S. (2023). Variance reduction techniques for stochastic proximal point algorithms. *arXiv preprint arXiv:2308.09310*

ARTICLES IN PEER-REVIEWED JOURNALS (accepted or published)

[1] TRAORÉ, C., SALZO, S., AND VILLA, S. (2023). Convergence of an Asynchronous Block-Coordinate Forward-Backward Algorithm for Convex Composite Optimization. *Computational Optimization and Applications*, 86(1), 303-344

[2] TRAORÉ, C., AND PAUWELS, E. (2021). Sequential convergence of AdaGrad algorithm for smooth convex optimization. *Operations Research Letters*, 49(4), 452-458

INVITED TALKS

Journées annuelles 2023 du GDR MOA   *October 2023*
Title: *Variance reduction techniques for stochastic proximal point algorithms*
Perpignan, France

20th EUROpt Workshop on Continuous Optimization   *August 2023*
Session: Stochastic methods / Stream: First-order optimization methods
Title: *Asynchronous block coordinate Forward-Backward*
Budapest, Hungary

SIAM Conference on Optimization (OP23)   *June 2023*
Mini Symposium on Randomized Methods for Linear Systems: Row-Action
  and Coordinate Descent
Title: *Asynchronous block coordinate Forward-Backward*
Seatle, United States

Second Conference of Young Applied Mathematicians   *September 2022*
Session: Machine Learning and Statistics
Title: *Asynchronous block coordinate Forward-Backward*
Arenzano, Italy

International Conference on Optimization and Decision Science   *August 2022*
Session: Optimization for machine learning
Title: *Asynchronous block coordinate Forward-Backward*
Florence, Italy

SIAM Annual Meeting (AN22) (online)   *July 2022*
Mini Symposium on Algorithmic Advancements for Computing on
  Distributed Systems
Title: *Asynchronous block coordinate Forward-Backward*
Pittsburgh, United States

ACADEMIC AND RESEARCH ACTIVITIES

SCIENTIFIC EVENTS

EurOpt, Lund, Sweden   *June 2024*
Organizing a stream: *Optimization for inverse problems and machine learning*

TraDE-OPT closing workshop, Sestri Levante, Italy   *September 2024*
Organizing committee member

REVIEWS (since 2021)

Journal of Machine Learning Research

SIAM Journal on Imaging Sciences

LANGUAGE

French   *Native of a francophone country*

English   *Fluent*

MISCELLANEOUS

Web developer   *February 2018 - September 2019*
Wutiko SAS, Senegal

Graduate intern   *May 2017 - October 2017*
Wutiko SAS, Senegal

Tempory mathematics teacher   *September 2010 - June 2013*
Several High Schools in Burkina Faso