

Houssam Zenati

RESEARCH FELLOW, UNIVERSITY COLLEGE OF LONDON

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Experience

UCL, Gatsby Computational Neuroscience Unit

RESEARCH FELLOW

London, UK

Jan 2025 - Present

- Causal Inference, Causal Mediation Analysis, Causal Sequential Decision Making

INRIA

POSTDOCTORAL RESEARCHER

Paris Saclay, France

Nov 2023 - Dec 2024

- Causal Inference, Causal Mediation Analysis, Causal Sequential Decision Making

INRIA & Criteo

DOCTORAL RESEARCHER

Grenoble, France

April 2019 - July 2023

- Counterfactual Logged Bandit, Offline policy learning, Stochastic and Adversarial bandits

IBM Research, AI

RESEARCH INTERN, REINFORCEMENT LEARNING

Tokyo, Japan

June 2018 - August 2018

- Deep Reinforcement Learning: learning control policies for constrained robotics problem

Institute for Infocomm Research, A*STAR

RESEARCH INTERN, COMPUTER VISION, DEEP LEARNING

Singapore

Aug 2017 - May 2018

- Unsupervised Anomaly Detection using Deep Generative Models, Semi-supervised Learning, Online Optimization

Education

Université Grenoble Alpes

PHD IN COMPUTATIONAL AND APPLIED MATHEMATICS

Grenoble, France

July 2020 - Sept 2023

- Efficient methods in counterfactual policy learning and sequential decision making

École Normale Supérieure Paris-Saclay

M.SC. IN COMPUTATIONAL AND APPLIED MATHEMATICS

Paris, France

Sept. 2018 - Dec. 2019

- MVA - Reinforcement Learning, Probabilistic Graphical Models, Deep Learning, Computer Vision, NLP

École Centrale Paris

M.ENG./B.ENG. IN APPLIED MATHEMATICS

Paris, France

Sept. 2015 - Dec. 2019

- Sequential learning, Statistical Learning, Probability Theory, Algorithms, Software Engineering. B.Eng. obtained in Sept. 2016

Lycée Louis Le Grand

PREPARATORY CLASSES (CPGE MPSI/MP*)

Paris, France

Sept. 2013 - July 2015

- Fundamental Mathematics, Physics, Engineering and Computer Science: General Algebra, Linear Algebra, Numerical Analysis

Research

2023

PhD Thesis, Zenati, H. 2023, *Efficient methods in counterfactual policy learning and sequential decision making PhD Dissertation*

Grenoble, France

WORKING PAPERS

2025

Preprint, Zenati, H., Abecassis, J., Josse, J. and Thirion, B. 2024, *Finite Sample Performances of Semi-parametric estimators in Mediation Analysis*,

2025

Preprint, Zenati, H., Abecassis, J., Josse, J. and Thirion, B. 2024, *Double Debiased Machine Learning for Mediation Analysis with Continuous Treatment*,

2024

Preprint, Abecassis, J., Zenati, H., Boumaïza, S., Josse, J. and Thirion, B. 2024, *Causal mediation analysis with one or multiple mediators: a comparative study*,

CONFERENCE PAPERS

- 2024 **Neural Information Process Systems**, Zhou, J., Rahier, T., Arbel, J., Zenati, H., and Gaillard, P. 2023, *Leveraging Semi-Bandit Feedback in Combinatorial Bandits with Dependent Arms*, *NeurIPS 2024* Vancouver, Canada
- 2023 **International Conference on Machine Learning**, Zenati, H., Diemert E., Martin, M., Mairal J. and Gaillard, P. 2023, *Sequential Counterfactual Risk Minimization*, *ICML 2023* Hawaii, US
- 2022 **International Conference on Machine Learning**, Martin, M., Mertikopoulos, P., Rahier, T. and Zenati, H. 2022, *Nested Exponential Weights and the Red Bus / Blue Bus Paradox* *ICML 2022* Baltimore, US
- 2022 **International Conference on Artificial Intelligence and Statistics**, Zenati, H., Bietti, A., Diemert, E., Mairal J., Martin, M., and Gaillard, P. 2022, *Efficient Kernel UCB for Contextual Bandits*, *AISTATS 2022* Virtual
- 2020 **ArXiv Preprint**, Zenati, H., Bietti, A., Diemert, E., Mairal J., Martin, M., and Gaillard, P. 2020, *Counterfactual Learning of Stochastic Policies with Continuous Actions: from Models to Offline Evaluation*,
- 2019 **International Conference on Learning Representations**, Mertikopoulos, P., Lecouat, B., Zenati, H., Foo, C.S., Chandrasekhar V. and Piliouras G. 2018, *Optimistic mirror descent in saddle-point problems: Going the extra(-gradient) mile*, *ICLR 2019* New Orleans, US
- 2018 **International Conference on Data Mining**, Zenati, H., Romain, M., Foo, C.S., Lecouat, B. and Chandrasekhar V. 2018, *Adversarially Learned Anomaly Detection*, in the *Proceedings of IEEE ICDM 2018 [Code]* Singapore

WORKSHOP PAPERS

- 2020 **International Conference on Learning Representations**, Zenati, H., Bietti, A., Martin, M., Diemert, E. and Mairal J. 2020, *Optimization Approaches for Counterfactual Risk Minimization with Continuous Actions*, *ICLR 2020, CDLM Workshop* Addis Ababa, Ethiopia
- 2019 **International Conference on Medical Image Computing and Computer Assisted Intervention**, Ouardini, K., Yang, H., Unnikrishnan, B., Romain, M., Garcin, C., Zenati, H., Campbell, P., Chiang, M., Kalpathy-Cramer, J., Chandrasekhar, V., Krishnaswamy, P., Foo C.S. 2019, *Towards practical unsupervised anomaly detection on retinal images*, *MICCAI 2019, Workshop* Shenzhen, China
- 2018 **Neural Information Processing Systems**, Lecouat, B., Chang, K., Foo, C.S., Unnikrishnan, B., Brown, J., Zenati, H., Beers, A., Chandrasekhar, V., Kalpathy-Cramer, J. and Krishnaswamy, P. 2018, *Semi-Supervised Deep Learning for Abnormality Classification in Retinal Images*, *NeurIPS 2018, ML4H Workshop* Montréal, Canada
- 2018 **International Conference on Learning Representations**, Lecouat, B., Foo, C.S., Zenati, H. and Ramaseshan V. 2018, *Semi-Supervised Learning With GANs: Revisiting Manifold Regularization*, *ICLR 2018, Workshop Track* Vancouver, Canada
- 2018 **International Conference on Learning Representations**, Zenati, H., Lecouat, B., Foo, C.S., Manek, G. and Chandrasekhar V. 2018, *Efficient GAN-Based Anomaly Detection*, *Submitted to ICLR Workshop 2020 [Code]*

Awards

- 2018 **IEEE ICDM**, Student Travel Award Singapore
- 2017 **SIPGA**, Awardee of Singapore International Pre-Graduate Award Singapore

References

Academic Supervisors.

Julien Mairal,
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Pierre Gaillard,
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Industrial Supervisors.

Eustache Diemert,
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Liva Ralaivola,
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Senior researchers.

Panagiotis Mertikopoulos,
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Chuan Sheng Foo,
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