

# Yassine Nemmour

## Personal Profile

I am a final-year PhD student working on robust machine learning, more specifically distributionally robust optimization/learning, learning-based model predictive control, and reinforcement learning. Previously, I also worked on robotics which played a large role in my interest in robust learning.

## Education

- Since 07/2019 **PhD in Machine Learning**, *Max Planck Institute for Intelligent Systems*, Tübingen, Germany.  
Research topics: distributionally robust optimization, robust machine learning, model predictive control, model-based reinforcement learning  
Advisors: [Bernhard Schölkopf](#), [Jia-Jie Zhu](#), Expected graduation: 10/2023
- 2014–2017 **M.Sc. in Robotics, Systems, and Control**, ETH Zürich.  
Thesis at University of Toronto with [Angela Schoellig](#) & [Andreas Krause](#): *Safe exploration in robotics using Bayesian Optimization and reinforcement learning and deployment on a real robot.*
- 2011–2014 **B.Sc. in Mechanical Engineering**, ETH Zürich.  
Thesis with [Raffaello D'Andrea](#): *Implementation and analysis of broadcasting protocols in a network of drones.*

## Work Experience

- 10/2023–present **Applied Scientist Intern**, *Amazon*, Luxembourg.  
Debiasing Neural Learning-to-Rank using probabilistic Transformers
- 06/2018–07/2019 **Research Assistant**, *Max Planck Institute for Intelligent Systems*, Tübingen, Germany.  
Worked on a robot table-tennis platform in [Jan Peters](#) group: Software and hardware-related projects mainly evolving around vision system of the robot platform.
- 11-12/2017 **Student Assistant**, *Aspaara*, Zürich.
- 09/2015–02/2016 **Research internship**, *Bosch Center for Artificial Intelligence (BCAI)*, Germany.  
Motion planning for robotics using reinforcement learning and linear temporal logic.  
Hosted by [Mathias Bürger](#)
- 2013–2014 **Undergraduate teaching**, *Linear Algebra and Analysis*, M. Eng. department, ETH Zürich.

## Talks

- 2023 Talk at [Siam OP](#) on distributionally robust learning using Kernels
- 2022 Talk at [EURO 2022](#) on distributionally robust chance constraints using MMD.
- 2022 Tutorial on Data-driven Chance-constrained optimization at [TU Berlin - Oxford summer school](#)

## Publications

- *Estimation Beyond Data Reweighting: Kernel Method of Moments* (H. Kremer, **Y. Nemmour**, B. Schölkopf, J. Zhu), International Conference on Machine Learning (**ICML**) 2023
- *Maximum Mean Discrepancy Distributionally Robust Nonlinear Chance-Constrained Optimization with Finite-Sample Guarantee* (**Y. Nemmour**\*, H. Kremer\*, B. Schölkopf, J. Zhu), IEEE Conference on Decision and Control (**CDC**) 2022.
- *Adversarially Robust Kernel Smoothing* (J. Zhu, C. Kouridi, **Y. Nemmour**, B. Schölkopf), International Conference on Artificial Intelligence and Statistics (**AISTATS**) 2022, **Oral**

- *Shallow Representation is Deep: Learning Uncertainty-aware and Worst-case Random Feature Dynamics* (D. Agudelo-Espana, **Y. Nemmour**, B. Schölkopf, J. Zhu), IEEE Conference on Decision and Control (**CDC**) 2022.
- *Distributional Robustness Regularized Scenario Optimization with Application to Model Predictive Control*, (**Y. Nemmour**, B. Schölkopf, J. Zhu), Learning for Dynamics and Control (**L4DC**) 2021
- *Reliable Real-Time Ball Tracking for Robot Table Tennis*, (S. Gomez-Gonzalez, **Y. Nemmour**, B. Schölkopf, J. Peters), Robotics – doi:10.3390/robotics8040090, 2019
- *Distributionally robust chance constrained programs using maximum mean discrepancy*, (**Y. Nemmour**, B. Schölkopf, J. Zhu), Safe and Robust Control of Uncertain Systems Workshop NeurIPS 2021

## Extracurricular Activities

- Reviewing JMLR, CDC (2021, 2022), 2x AISTATS (2022, 2023)
- 2021-present University Tübingen Basketball team
- 2020 Machine Learning Summer School (MLSS) Tuebingen Volunteer
- 2014-2017 Member of CTF (computer security) student team ([gn00bz/flagbot](#)) at ETH Zürich
- 2010 Finalist at Swiss Physics Olympiads (15th place – Bronze Medal)

## Skills

- Languages German and French (bilingual), English (C2), Arabic (A2)
- Programming Python, Matlab, C++, Assembly x86/ARM, Linux
- ML tools PyTorch, cvxpy, scikit-learn, ROS, CasADi