Abdelhakim Benechehab │ PhD Student

Expected Graduation – Spring 2026

☎ +33 6 69 35 20 50   •   ✉ abdelhakim.benechehab@gmail.com

🖘 https://abenechehab.github.io

Bio

PhD student at *Sorbonne University* and *Huawei Noah's Ark Lab*. Author of publications at top-tier conferences including **ICML** and **ICLR**, with expertise in Foundation models, Reinforcement Learning, and Time series.

Experience

Huawei Research - Noah's Ark Lab   **Paris, France**
PhD student - google scholar   *2023-Now*
Models with uncertainty for Reinforcement Learning. Advised by Giuseppe Paolo, Albert Thomas, and Balázs Kégl

↪ Contributed to Agent K, an LLM-based Data Science agent achieving Kaggle Grandmaster level.

Dental Monitoring   **Paris, France**
Research engineer - Computer vision, Object detection, Image segmentation   *6 months 2022-2023*

Huawei Research - Noah's Ark Lab   **Paris, France**
Research engineer   *2021-2022*
Autoregressive generative models for Offline Model-based Reinforcement Learning. Preprint.

Instadeep   **Paris, France**
Research intern   *6 months 2021*
Multi-GPU asynchronous training in Model-based Reinforcement Learning (35% runtime speed-up for Dreamer-v3)

Amadeus   **Nice, France**
Machine Learning intern - Anomaly detection   *3 months 2020*

Education

Doctor of Philosophy (PhD)   **Paris, France**
Sorbonne university, Eurecom Sophia-Antipolis Data Science Lab   *2023-Now*
Models with uncertainty for Reinforcement Learning. Advised by Prof Maurizio Filippone

Master of Science - Master MVA (Mathématiques, Vision, Apprentissage)   **Saclay, France**
Ecole normale supérieure de Paris-Saclay   *2020-2021*
Machine Learning, Deep Learning, Optimization, Reinforcement Learning, Bayesian inference, ML Theory

Engineering degree (Grande Ecole)   **Saint-étienne, France**
Ecole des Mines de Saint-étienne   *2018-2021*
Major: Data Science. Minor: Artificial Intelligence, Image and Pattern recognition

Bachelor of Science - Mathematics   **Saint-étienne, France**
Jean Monnet university - Algebra, Calculus, Topology, Probability & Statistics   *2018-2019*

Classe préparatoire aux Grandes Ecoles (CPGE)   **Marrakech, Morocco**
Lycée Ibn Timiya - Mathematics, Physics, and Engineering (MPSI/MP)*   *2016-2018*

Publications

- **Benechehab, A.**, et al. From Data to Rewards: a Bilevel Optimization Perspective on Maximum Likelihood Estimation. *Preprint 2025.*
- El Hili, Y. A., Thomas, A., **Benechehab, A.**, et al. In-Context Meta-Learning with Large Language Models for Automated Model and Hyperparameter Selection *LLM-eval workshop @ NeurIPS 2025.*
- **Benechehab, A.**, et al. AdaPTS: Adapting Univariate Foundation Models to Probabilistic Multivariate Time Series Forecasting. *Forty-second International Conference on Machine Learning (ICML 2025).*
- **Benechehab, A.**, et al. Zero-shot Model-based Reinforcement Learning using Large Language Models. *The Thirteenth International Conference on Learning Representations (ICLR 2025).*

- Zekri, O., **Benechehab, A.**, & Redko, I. Can LLMs predict the convergence of Stochastic Gradient Descent? *ICL workshop @ ICML 2024.*
- **Benechehab, A.**, et al. A Study of the Weighted Multi-step Loss Impact on the Predictive Error and the Return in MBRL. *ICBINB workshop @ RLC 2024.*
- Thomas, A., **Benechehab, A.**, et al. Fair Model-Based Reinforcement Learning Comparisons with Explicit and Consistent Update Frequency. *Blogpost @ ICLR 2024.*
- **Benechehab, A.**, Thomas, A., & Kégl, B. Deep autoregressive density nets vs neural ensembles for model-based offline reinforcement learning. *Preprint 2022.*

Technical skills

Deep Learning: Pytorch, DeepSpeed, accelerate

Reinforcement Learning: Gym, Stable-Baselines3, Deepmind Control, ray[Tune, RLLib], MBRL-Lib, CleanRL

LLM: Transformers, TRL, PeFT, vLLM

Divers Python libraries: Numpy, Pandas, Sklearn, Skrub (contributor, 1.5k stars), Matplotlib, Seaborn

Other: Linux, Git, Docker, LATEX, Prezi

Achievements

Attended CIFAR DLRLSS: Deep learning summer school	*Vector Institute - Toronto*
Scholarship: Granted a merit scholarship, $\sim 20000\$$ over 3 years	*OCP Foundation*
Top 1% students in Morocco: Ranked $48^{th}/\sim 5000$ in the Concours National Commun 2018.	*CPGE*
Soft skills professional certificate: Communication, Teamwork	*Rochester Institute of Technology*
Public speaking competition: Finalist at a national contest	*The ministry of education - Morocco*

Extracurricular activities

Math&Maroc	**France & Morocco**
Member, Moroccan NGO	*2023-2025*
AI Podcast host, Organizing ThinkAI 2024 Hackathon, Webinar host	
Antagon TheaterAKTion	**Frankfurt, Germany**
Staff	*1 month 2019*
Organizing SommerWerft, a free-theater festival in the heart of Frankfurt	

Talks

Invited talk @ KAUST on Adapting Foundation Models	*slides*
Presented DICL @ a FinRL seminar	*slides*
MoroccoAI webinar on Adapting Foundation Models	*video, slides*

Languages

- Arabic (Mothertongue)
- English (Advanced)
- French (Bilingual)
- Spanish (Intermediate)
- Italian (Basics)

Interests

- Volleyball (8+ years)
- Chess
- Cultural Travel (30+ countries)
- Bouldering