Karim Abdel Sadek

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EDUCATION

University of California, Berkeley — **Berkeley, US**
Doctor of Philosophy in Computer Science — *Aug 2025 – Present*
Partially supported by the Cooperative AI PhD Fellowship

University of Amsterdam — **Amsterdam, NL**
MSc in Artificial Intelligence — *Sep 2023 – Aug 2025*
Thesis: 'On the role of preferences and beliefs in inverse reinforcement learning'
Relevant Coursework: Machine Learning I, Deep Learning I&II, Game Theory, Computational Social Choice.
Grade: *Cum Laude* (Highest possible grade)

Georgia Institute of Technology — **Atlanta, USA**
BSc in Computer Science – Exchange student — *Jan 2023 – May 2023*
Selected by academic merit to participate in the Exchange Program 2022-2023 with a full-ride scholarship.
Coursework: Deep Learning, Information Theory, Quantum Mechanics, Automata and Complexity.
GPA: 4.0/4.0

Bocconi University — **Milan, IT**
BSc in Mathematics and Computing Sciences for Artificial Intelligence — *Sep 2020 – Jul 2023*
Thesis: 'Machine Learning Augmented Algorithms with Reduced Number of Predictions', grade: 4/4.
Relevant Courses: Real Analysis I, II ,III, Game Theory, Physics I ,II, Advanced Optimization, Decision Theory.
Head Student, Course Representative, Student-Faculty Joint Committees Representative.
GPA: 27.8/30 (Equivalent to 3.8/4.0)

RESEARCH EXPERIENCE

University of California, Berkeley – Center for Human Compatible AI (CHAI) — **Berkeley, US**
Visiting Student Researcher — *Jan 2025 – Jul 2025*
Working on Human-AI alignment, social choice theory, multi-agent systems, preference learning.
Supervisors: Micah D. Carroll, Anand Siththaranjan, Michael Dennis

University of Cambridge – Krueger AI Safety Lab — **Cambridge, UK**
Research Intern — *Mar 2024 – Dec 2024*
Working on RL, Goal Misgeneralization, Unsupervised Environment Design.
ERA Fellowship Recipient.
Supervisors: Michael Dennis, Usman Anwar, David Krueger

Bocconi University, Department of Computing Sciences — **Milan, IT**
Research Intern — *Jun 2022 – Aug 2023*
First co-author on a paper titled 'Algorithms for Caching and MTS with Reduced Number of Predictions'.
Research Area: Theory of Algorithms, ML-augmented algorithms, Online learning.
Paper accepted at ICLR 2024 (Top 2 % of scores).
Supervisor: Prof. Marek Elias

PUBLICATIONS

[1] **Karim Abdel Sadek**, Marek Elias. "Algorithms for Caching and MTS with Reduced Number of Predictions." *International Conference on Learning Representations (ICLR) 2024*. Paper and Reviews

[2] Jort Vincenti*, **Karim Abdel Sadek***, Matteo Nulli*, Joan Velja*, Metod Jazbec "Dynamic Vocabulary Pruning in Early-Exit LLMs." ENLSP Workshop, NeurIPS 2024. Paper

[3] **Karim Abdel Sadek**, Nulli M., Velja J., Vincenti J. "Explaining RL Decisions with Trajectories: A Reproducibility Study." *Transactions on Machine Learning Research (TMLR)* 2024. Paper

[4] **Karim Abdel Sadek***, Matthew F. Roberts *, Usman Anwar, Hannah Erlebach, Christian Schroeder De Witt, David Krueger, Michael Dennis. "Mitigating Goal Misgeneralization via Minimax Regret." *Reinforcement Learning Conference (RLC) 2025*. Paper

TEACHING

Teaching Assistant

Bocconi University: Algorithms and Computing Theory; Prof. Luca Trevisan	Spring 2022
Bocconi University: Physics I, II; Prof. Riccardo Zecchina	Fall 2022
Bocconi University: Probability; Prof. Sandra Fortini	Spring 2023

INDUSTRY EXPERIENCE

Clearbox.AI	**Turin, IT**
Machine Learning Intern	*Jun 2022 – Aug 2022*

Worked on the generation of synthetic data for internal and business purposes. Benchmarked the SDV MIT library against internal privacy metrics. Synthesized tens of datasets using GANs and VAEs.

AWARDS, TALKS AND SERVICE

Scholarships and Grants

Cooperative AI PhD Fellowship: Awarded support for the entire duration of my PhD. Full stipend, in addition to travels, compute, and additional benefits ~ $50,000 / year	2025
Berkeley Existential Risk Initiative – Support for research at CHAI, UC Berkeley – $30,000	2024
Krueger AI Safety Lab and ERA Fellowship: Research Intern '24 - $18,000.	2024
Cooperative AI Summer School: Scholarship and Travel Grant - $1500	2024
Qualcomm Technologies and Ellis Amsterdam: MSc Grant - €2000	2024
University of Amsterdam: MSc Student Travel Grant for ICLR 2024 - €500	2024
AI Grant, University of Amsterdam - €300	2024
Georgia Institute of Technology, full-ride scholarship for exchange semester Spring '23 - ~ $17,000	2023
Banca di Credito Cooperativo di Brescia: Merit Scholarship for Academic Achievements - €600	2023
Bocconi University: Funding to present the AILAB winning project at Oxford University - €800	2022
Banca di Credito Cooperativo di Brescia: Merit Scholarship for Academic Achievements - €500	2020
AFS Intercultura: AFS Scholarship for Academic Excellence. Covered the cost of my exchange year in Brazil for the academic 2018/2019 - ~€4000	2018
Banca di Credito Cooperativo di Brescia: Merit Scholarship for Academic Achievements - €300	2014

Talks

Mitigating Goal Misgeneralization via Minimax Regret	Reinforcement Learning Conference, Aug 2025
Mitigating Goal Misgeneralization via Minimax Regret	Odyssey, Berkeley, Aug 2025

Service – Reviewing

NeurIPS 2024
TMLR
ICLR 2025
RLC 2025

LANGUAGES & SKILLS

Languages: *Italian*: Native; *English*: Advanced, IELTS 8.0; *Portuguese*: C1; *Spanish*: DELE B1
Skills: Proficiency in Python, TensorFlow, PyTorch, JAX

EXTRACURRICULARS

University of Oxford, Bioinformatics Hub Conference Series (July 2022)
- Winner of the AI LAB competition held by Prof. Francesca Buffa regarding breast-cancer detection
- Received funding to travel and present our work at the University of Oxford

Lead The Future Mentorship – *Mentee*

- Among the few Italian students selected to be mentees, directed to students in STEM, with an acceptance rate $< 20\%$

Associations:
- AI researcher affiliate, *Future of Life Institute*
- (Past) Head of Research at Bocconi Students for Data Science and AI
- (Past) Member at Bocconi Students for Space Developments

Volunteering:
- Teacher Volunteer: Taught math and physics to final-year high-school students in a difficult context in Brazil
- AFS Volunteers: Mentored 60+ students preparing for study-abroad experiences, fostering cultural skills and sensibility