Andrew Cropper
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Academic employment

2025-	Associate Professor	University of Helsinki
2025-	Principal Investigator	ELLIS Institute Finland
2021-25	Research Fellow	University of Oxford
2018-2021	Junior Research Fellow	University of Oxford
2013	Research Assistant	University of Cambridge

Education

2018	PhD Computer Science	Imperial College London
2011	MSc Computer Science	University of Oxford
2009	BSc Computer Science	Nottingham Trent University

Awards and honours

2023	AAAI new faculty highlights
2019	ILP best paper
2018	ILP best paper
2014	ILP best student paper

Major grants and fellowships

2021	EPSRC early career fellowship	£1.4m
2021	EPSRC kick-starter grant	£81k

Other grants and fellowships

2024	Helsinki Institute for Information Technology visitor funding	€5k
2021–2024	Non-stipendiary junior research fellowship, University of Oxford	
2018-2021	Stipendiary junior research fellowship, University of Oxford	
2019	Google cloud platform grant	$5k
2014	National Institute of Informatics internship	£3k
2013	Syngenta fellowship	£30k

Keynote talks

2025	International joint conference on learning & reasoning (IJCLR)

Publications

IJCAI 2025	Relational decomposition for program synthesis C. Hocquette and A. Cropper

AAAI 2025 Scalable knowledge refactoring using constrained optimisation
M. Liu, F. Gouveia, D. Cerna, and A. Cropper

Nature Comms 2024 Symbolic metaprogram search improves learning efficiency and explains rule learning in humans
J.S. Rule, S.T. Piantadosi, A. Cropper, K. Ellis, M. Nye, and J.B. Tenenbaum

ECAI 2024 Learning logic programs by finding minimal unsatisfiable programs
A. Cropper and C. Hocquette

IJCAI 2024 Learning big logical rules by joining small rules
C. Hocquette, A. Niskanen, R. Morel, M. Jarvisalo, and A. Cropper

IJCAI 2024 Learning logic programs by discovering higher-order abstractions
C. Hocquette, S. Dumančić, and A. Cropper

AAAI 2024 Learning MDL logic programs from noisy data
C. Hocquette, A. Niskanen, M. Jarvisalo, and A. Cropper

AAAI 2024 Generalisation through negation and predicate invention
D. Cerna and A. Cropper

AAAI 2023 Relational program synthesis with numerical reasoning
C. Hocquette and A. Cropper

AAAI 2023 Learning logic programs by discovering where not to search
A. Cropper and C. Hocquette

AAAI 2023 The automatic computer scientist
A. Cropper

MLJ 2023 Learning programs by explaining failures
R. Morel and A. Cropper

MLJ 2023 Learning programs with magic values
C. Hocquette and A. Cropper

ECAI 2023 Learning logic programs by combining programs
A. Cropper and C. Hocquette

AAAI 2022 Learning logic programs though divide, constrain, and conquer
A. Cropper

JAIR 2022 Inductive logic programming at 30: A new introduction
A. Cropper and S. Dumancic

MLJ 2022 Inductive logic programming at 30
A. Cropper, S. Dumančić, R. Evans, and S. H. Muggleton

MLJ 2021 Learning programs by learning from failures
A. Cropper and R. Morel

AAAI 2021 Knowledge refactoring for inductive program synthesis
S. Dumancic, T. Guns, and A. Cropper

IJCAI 2020 Learning large logic programs by going beyond entailment
A. Cropper and S. Dumančić

IJCAI 2020 Turning 30: new ideas in inductive logic programming
A. Cropper, S. Dumančić, and S. H. Muggleton

AAAI 2020	Forgetting to learn logic programs A. Cropper
AAAI 2020	Learning higher-order programs through predicate invention A. Cropper, R. Morel, and S. H. Muggleton
MLJ 2020	Logical reduction of metarules A. Cropper and S. Tourret
MLJ 2020	Inductive general game playing A. Cropper, R. Evans, and M. Law
MLJ 2020	Learning higher-order logic programs A. Cropper, R. Morel, and S. H. Muggleton
IJCAI 2019	Playgol: learning programs through play A. Cropper
MLJ 2019	Learning efficient logic programs A. Cropper and S. H. Muggleton
JELIA 2019	SLD-resolution reduction of second-order horn fragments S. Tourret and A. Cropper
JELIA 2019	Typed meta-interpretive learning of logic programs R. Morel, A. Cropper, and C. L. Ong
ILP 2018	Derivation reduction of metarules in meta-interpretive learning A. Cropper and S. Tourret
IJCAI 2016	Learning higher-order logic programs through abstraction and invention A. Cropper and S. H. Muggleton
IJCAI 2016	Logic-based inductive synthesis of efficient programs A. Cropper
IJCAI 2015	Learning efficient logical robot strategies involving composable objects A. Cropper and S. H. Muggleton
IJCAI 2015	Learning efficient logic programs A. Cropper
ILP 2015	Meta-interpretive learning of data transformation programs A. Cropper, A. Tamaddoni-Nezhad, and S. H. Muggleton
ILP 2015	Typed meta-interpretive learning for proof strategies C. Farquhar, G. Grov, A. Cropper, S. Muggleton, and A. Bundy
SCAI 2015	Can predicate invention compensate for incomplete background knowledge? A. Cropper and S. H. Muggleton
ILP 2014	Logical minimisation of meta-rules within meta-interpretive learning A. Cropper and S. H. Muggleton

Supervision

I am/was the primary supervisor of the following postdocs/students except where otherwise stated

Postdoc

2025	Mingyue Liu	University of Oxford
2023–2024	Minghao Liu	University of Oxford
2023–2024	Filipe Gouveia	University of Oxford
2021–2024	Céline Hocquette	University of Oxford

PhD

2019–2023	Rolf Morel	University of Oxford

Outreach

2023	Head, Hand, & Hertford	University of Oxford
2021	UNIQ summer school	University of Oxford
2019	Bebras Computing Challenge	University of Oxford

MSc/masters

2022	Cristian Dinu	University of Oxford
2022	Bogdan Cretu	University of Oxford
2021	John Wahlig	University of Oxford
2021	Brad Hunter	University of Oxford
2018	Rolf Morel	University of Oxford

BSc

2023	Maria-Alexa Tudose (C. Hocquette lead supervisor)	University of Oxford
2022	Victor Vasiesiu	University of Oxford
2021	Cristian Dinu	University of Oxford
2020	Alastair Flynn	University of Oxford

Summer intern

2024	Mingyue Liu	University of Oxford
2018	Joar Skalse	University of Oxford

Research visits

2023, 2024, 2025	Matti Järvisalo	University of Helsinki
2016, 2018, 2019	Josh Tenenbaum	MIT
2019	Sebastijan Dumančić	KU Leuven
2014, 2015, 2017	Katsumi Inoue	National Institute of Informatics, Japan

Visitors hosted

2023	Andreas Niskanen	University of Helsinki
2023	Tom Silver	MIT
2022, 2023	David Cerna	Czech Academy of Sciences Institute of Computer Science
2022	Ute Schmid	University of Bamberg
2022	Sebastijan Dumančić	TU Delft

Teaching

2020	Introduction to formal proof	University of Oxford
2019	Computational logic	Stanford University (Oxford campus)

Tutorials

2023	AAAI	Inductive logic programming: an introduction and recent advances

Industrial employment

2012–2013	Researcher	MFG Labs, Paris, France
2009–2010	Software Engineer	Esendex, Nottingham
2007–2008	Software Engineer	Counter Solutions, Derby

Consultancy

2023	Kantar, London

Organisation

2023	Co-organiser	Dagstuhl seminar: Approaches and Applications of Inductive Programming
2021	Co-organiser	Dagstuhl seminar: Approaches and Applications of Inductive Programming

Program committee

2020–2026	AAAI
2019–2025	IJCAI
2020, 2025	ECAI
2025	JCLR
2021	KR
2020–2022	ILP
2020	StarAI

Reviewer

2025	Theory and practice of logic programming
2024	Journal of automated reasoning
2020–2023	Machine learning journal
2023	International journal of approximate reasoning
2021, 2022	IJCAI surveys
2020	POPL

Other service

2021-2025	EPSRC peer review college
2015, 2016	IJCAI student volunteer

University service

2022, 2023	PhD admissions	University of Oxford
2021, 2022	Undergraduate admissions	University of Oxford

Outreach

2023	Head, Hand, & Hertford	University of Oxford
2021	UNIQ summer school	University of Oxford
2019	Bebras Computing Challenge	University of Oxford

Invited panellist

2023	AI discussion	Royal United Services Institute, Oxford
2023	AI panel	Morgan Stanley global investment seminar, Venice

Selected talks

2025	Automating Karl Popper's logic of scientific discovery	Aachen symposium on learning to act and plan
2024	The automatic computer scientist	Finnish centre for artificial intelligence
2023	The automatic computer scientist	AAAI new faculty highlights
2023	Learning programs by learning from failures	AAAI journal track
2022	The automatic computer scientist	Forest Agostinelli's group, University of South Carolina
2021	Learning programs by learning from failures	University of Potsdam
2021	Learning higher-order logic programs	Seminar on KRR, LMU Munich
2021	Inductive logic programming	Judy Fan's group, UC San Diego
2019	Learning programs by learning from failures	Josh Tenenbaum's group, MIT
2019	Learning higher-order logic programs	DTAI seminar, KU Leuven
2019	Learning programs through play	DTAI seminar, KU Leuven
2019	Learning programs through play	Dagstuhl seminar on inductive programming
2019	Learning programs through play	Machine Intelligence 21
2017	Learning higher-order logic programs	Dagstuhl seminar on inductive programming
2017	Learning efficient logic programs	Josh Tenenbaum's group, MIT
2017	Learning efficient logic programs	Dagstuhl seminar on inductive programming
2016	Inductive logic programming	Stuart Russell's group, UC Berkeley
2016	Learning efficient logic programs	Machine Intelligence 20