Andrew Cropper

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Education

PhD Computer Science, Imperial College London 2017
Supervisor: Professor Stephen Muggleton
Thesis: Efficiently learning efficient programs

MSc Computer Science, University of Oxford 2011
Supervisor: Dr Brian Harrington
Thesis: Predicting stock volume using Twitter

BSc Computer Science, Nottingham Trent University 2009
Graduated with first-class honours
Supervisor: Dr Caroline Langensiepen
Dissertation: Identifying and inferring objects from natural language

Employment

Junior Research Fellow, Hertford College, University of Oxford 2018 -
Working on inductive logic programming

Research Assistant, University of Cambridge 2013
Worked with Dr Eiko Yonkei on distributed graph algorithms

Research Engineer, MFG Labs, Paris, France 2012 - 2013
Designed large-scale distributed machine learning algorithms

Software Engineer, Esendex, Nottingham 2010
Developed analytical tools to monitor SMS traffic

Software Engineer, Counter Solutions, Derbyshire 2007 - 2008
Developed analytical tools to monitor servers

Research visits

Massachusetts Institute of Technology 2016
Worked with Professor Josh Tenenbaum on program induction

National Institute of Informatics, Tokyo, Japan 2014, 2015, 2017
Worked with Professor Katsumi Inoue on inductive logic programming

Awards

- Junior research fellowship, Hertford College, University of Oxford 2018
- *Machine Learning Journal* best student paper ILP 2014
- National Institute of Informatics international internship program 2014
- Syngenta fellowship 2013
- Full BBSRC PhD case studentship 2013

Publications

Journals

- A. Cropper and S.H. Muggleton. Learning efficient logic programs. *Machine learning journal*. To appear.

Conferences

- A. Cropper and S.H. Muggleton. Learning higher-order logic programs through abstraction and invention. In *Proceedings of the 25th International Joint Conference Artificial Intelligence (IJCAI 2016)*, pages 1418-1424. IJCAI, 2016.
- A. Cropper and S.H. Muggleton. Learning efficient logical robot strategies involving composable objects. In *Proceedings of the 24th International Joint Conference Artificial Intelligence (IJCAI 2015)*, pages 3423-3429. IJCAI, 2015.
- A. Cropper, A. Tamaddoni-Nezhad, and S.H. Muggleton. Meta-interpretive learning of data transformation programs. In *Proceedings of the 25th International Conference on Inductive Logic Programming (ILP2015)*, pages 46-59. Springer-Verlag, 2015. LNAI 9046.
- C. Farquhar, G. Grov, A. Cropper, S.H. Muggleton, and A. Bundy. Typed meta-interpretive learning for proof strategies. In *Late Breaking Papers of the 25th International Conference on Inductive Logic Programming*, pages 17-32, 2015.
- A. Cropper and S.H. Muggleton. Can predicate invention compensate for incomplete background knowledge? In *Thirteenth Scandinavian Conference on Artificial Intelligence* - SCAI 2015, Halmstad, Sweden, November 5-6, 2015, pp. 27-36.
- A. Cropper and S.H. Muggleton. Logical minimisation of meta-rules within meta-interpretive learning. In *Proceedings of the 24th International Conference on Inductive Logic Programming (ILP2014)*, pages 62-75. Springer-Verlag, 2015. LNAI 9046.

Workshops

- A. Cropper. Identifying and inferring objects from textual descriptions of scenes from books. In *2014 Imperial College Computing Student Workshop*, ICCSW 2014, September 25-26, 2014, London, United Kingdom, pp. 19-26.

Extended abstracts

- A. Cropper. Logic-based inductive synthesis of efficient programs. In *Proceedings of the 25th International Joint Conference Artificial Intelligence (IJCAI 2016)*, pages 3980-3981. IJCAI, 2016.
- A. Cropper. Learning efficient logic programs. In *Proceedings of the 24th International Joint Conference Artificial Intelligence (IJCAI 2015)*, pages 4359-4360. IJCAI, 2015.

Talks

- Meta-interpretive learning logic programs, *Workshop on approaches and Applications of inductive programming*, Cambridge, UK, March 2018.
- Learning efficient logic programs, *Workshop on approaches and Applications of inductive programming*, Dagstuhl, Germany, October 2017.
- Learning higher-order logic programs, *Workshop on approaches and Applications of inductive programming*, Dagstuhl, Germany, October 2017.
- Learning efficient logic programs, *Machine Intelligence 20 workshop on human-like computing*, London, UK, October 2016.
- Logic-based learning of programs from input/output examples, UC Berkeley, USA, July 2016.
- Metagol, *Workshop on approaches and Applications of inductive programming*, Dagstuhl, Germany, October 2015.
- Predicate invention in meta-interpretive learning, *Meeting on abductive and inductive reasoning*, Wakayama University, Japan, November 2014.