

Education

PhD Computer Science , Imperial College London Supervisor: Professor Stephen Muggleton Thesis: Efficient learning of efficient programs	Oct 2013 -
MSc Computer Science , University of Oxford Supervisor: Dr Brian Harrington Thesis: Modelling stock volume using Twitter	Oct 2010 - Oct 2011
BSc Computer Science , Nottingham Trent University Graduated with first-class honours Supervisor: Dr Caroline Langensiepen Dissertation: Identifying and inferring objects from natural language text	Oct 2005 - Jul 2009

Experience

Visiting researcher , National Institute of Informatics, Tokyo, Japan	Aug 2015 - Sep 2015
Research intern , National Institute of Informatics, Tokyo, Japan Worked with Professor Katsumi Inoue on comparing meta-interpretive learning and meta-level abduction	Oct 2014 - Dec 2014
Research Assistant , University of Cambridge Worked with Dr Eiko Yonkei on distributed asynchronous graph algorithms	Jul 2013 - Oct 2013
Research Engineer , MFG Labs, Paris, France Designed and developed large-scale machine learning algorithms	Jan 2012 - Jul 2013
Software Engineer , Esendex, Nottingham Developed analytical tools to monitor business SMS traffic	Jan 2010 - Oct 2010
Software Engineer , Counter Solutions, Derbyshire Developed analytical tools to monitor database and web servers	Jun 2007 - Oct 2008

Publications

Conferences

1. A. Cropper and S.H. Muggleton. Learning higher-order logic programs through abstraction and invention. In *Proceedings of the Twenty-Fifth International Joint Conference on Artificial Intelligence, IJCAI 2016*. To Appear.
2. A. Cropper. Logic-based inductive synthesis of efficient programs. In *Proceedings of the Twenty-Fifth International Joint Conference on Artificial Intelligence, IJCAI 2016*. To Appear.
3. 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, ILP 2015*. To appear.
4. A. Cropper and S.H. Muggleton. Learning efficient logical robot strategies involving composable objects. In *Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence, IJCAI 2015, Buenos Aires, Argentina, July 25-31, 2015*, pp. 3423-3429.

5. A. Cropper. Learning efficient logic programs. In *Proceedings of the Twenty-Fourth International Joint Conference on Artificial Intelligence*, IJCAI 2015, Buenos Aires, Argentina, July 25-31, 2015, pp. 4359-4360.
6. 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.
7. A. Cropper and S.H. Muggleton. Logical minimisation of meta-rules within meta-interpretive learning. In *Inductive Logic Programming - 24th International Conference*, ILP 2014, Nancy, France, September 14-16, 2014, Revised Selected Papers, pp. 62-75.

Workshops

1. C. Farquhar, G. Grov, A. Cropper, S.H. Muggleton, and A. Bundy. Typed meta-interpretive learning for proof strategies. *The 6th International Workshop on the use of AI in Formal Methods*, AI4FM 2015.
2. 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.

Awards and grants

- *Machine Learning Journal* best student paper ILP 2014
- National Institute of Informatics international internship program Oct 2014 - Dec 2014
- Syngenta fellowship Oct 2013 - Oct 2017
- Full BBSRC PhD case studentship Oct 2013 - Oct 2017

Professional services

Reviewing

- 2014 Imperial College Computing Student Workshop

Other

- IJCAI 2015 Student volunteer

Talks

- Logic-based learning of programs from input/output examples, UC Berkeley, Berkeley, USA, Jun 2016.
- Can predicate invention compensate for incomplete background knowledge? Scandinavian Conference on Artificial Intelligence, Halmstad, Sweden, Nov 2015.
- Meta-interpretive learning of data transformation programs, International Conference on Inductive Logic Programming, Kyoto, Japan, Aug 2015.
- Learning efficient logical robot strategies involving composable objects. International Conference on Inductive Logic Programming, Kyoto, Japan, Aug 2015.
- Learning efficient logical robot strategies involving composable objects. International Joint Conference on Artificial Intelligence, Buenos Aires, Argentina, Jul 2015.

- Learning efficient logic programs, Doctoral Consortium of the International Joint Conference on Artificial Intelligence 2015, Buenos Aires, Argentina, Jul 2015.
- Meta-interpretive learning normal logic programs, Meeting on meta-interpretive learning, Imperial College London, UK, Jan 2015.
- Predicate invention in meta-interpretive learning, Meeting on abductive and inductive reasoning, Wakayama University, Japan, Dec 2014.
- Logical minimisation of meta-rules within meta-interpretive learning, International Conference on Inductive Logic Programming, Nancy, France, Sep 2014.
- Can predicate invention in meta-interpretive learning compensate for incomplete background knowledge?, International Conference on Inductive Logic Programming, Nancy, France, Sep 2014.
- Identifying and inferring objects from textual descriptions of scenes from books, Imperial College Computing Student Workshop, London, UK, Sep 2014.