THOMAS ARCHBOLD

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BACKGROUND

I am a postdoctoral research fellow with the Algorithmic Decision Theory group at the University of New South Wales. My research interests are in algorithmic game theory and mechanism design, which lie at the intersection of theoretical computer science and economics. More broadly I am also interested in bounded rationality, optimisation, and computational complexity.

EDUCATION

Ph.D. Computer Science, King's College London *2020-2024*
Thesis: *Non-Obviously Manipulable Mechanism Design*
Supervised by Carmine Ventre and Bart de Keijzer

MSc. Computer Science, University of Warwick *2019-2020*
Classification: Distinction
Dissertation title: *A Decentralised Peer-Prediction Market* (awarded distinction)

BSc. (Hons) Computer Science, University of Warwick *2016-2019*
Classification: 2-1
Dissertation title: *An Educational Kernel for the Raspberry Pi* (awarded first class)

EXPERIENCE

Postdoctoral Research Fellow, University of New South Wales *Sep 2024-present*
Conducting research in computational social choice, algorithmic game theory, and mechanism design with the Algorithmic Decision Theory group at UNSW contributing to the Australian Research Council Laureate Fellowship project on "Trustworthy AI", supervised by Toby Walsh.

Academic Reviewer *ongoing*
Journal reviewer for the *Journal of Artificial Intelligence.*
Conference reviewer:
- Algorithmic Decision Theory (ADT)
- Autonomous Agents and Multiagent Systems (AAMAS)
- Economics and Computation (EC)
- Foundations of Software Technology and Theoretical Computer Science (FSTTCS)
- Symposium on Algorithmic Game Theory (SAGT)
- Web and Internet Economics (WINE)

Graduate Teaching Assistant, King's College London *2021-2024*
- 6CCS3AIN Artificial Intelligence (2022-2024)
- 6CCS3OME Optimization Methods (2021-2024)
- 4CCS1DST Data Structures (2021-2023)
- 4CCS1FC1 Foundations of Computing I (2022/23)
- 6CCE3EAL Engineering Algorithms (2023/24)
- 6CCM359A Numerical and Computational Methods (2023/24)
- 5CCM251A Discrete Mathematics (2023/24)

Private Tutor *ongoing*
Deliver lessons for maths and computer science for GCSE up to undergraduate level.

PUBLICATIONS

Willy Wonka Mechanisms *May 2024*
In *Proceedings of the 23rd International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2024).*
With Bart de Keijzer and Carmine Ventre.

Non-Obvious Manipulability in Extensive-Form Mechanisms: the Revelation Principle for Single-Parameter Agents
In *Proceedings of the 32nd International Joint Conference on Artificial Intelligence (IJCAI 2023).* *Aug 2023*
With Bart de Keijzer and Carmine Ventre.

Non-Obvious Manipulability for Single-Parameter Agents and Bilateral Trade *May 2023*
In *Proceedings of the 22nd International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2023).*
With Bart de Keijzer and Carmine Ventre.

LANGUAGES AND SKILLS

Programming Languages	Bash, C, Common Lisp, Python
Languages	French (B2/upper intermediate), Russian (B1/intermediate)

WIDER ACTIVITIES AND ACHIEVEMENTS

Surrey Hills Gliding Club, Kenley Aerodrome	*2024-present*
First XV Player of the Season, University of Warwick RFC	*2018/19, 2019/20*
Players' Player, Barnet Elizabethans RFC	*2015/16*
First XV Vice Captain, QE Boys First XV	*2015/16*