

Elliot Catt

CONTACT INFORMATION

EMAIL: ecatt@deepmind
WEBSITE: <https://catt.id/>
LOCATION: London, UK

CURRENT AFFILIATIONS

Primary:
• Research Scientist, Deepmind

RESEARCH INTERESTS

Artificial Intelligence, Reinforcement Learning, Non-stationary Sequence Prediction and Change-point Detection, Data Compression, Decision Making under Uncertainty, Planning, Online Learning, Games, Quantum Computing, Algorithmic Information Theory and Interactive Theorem Proving.

EDUCATION

Australian National University, Canberra, ACT, Australia

Ph.D., Computer Science, April 2022

- Primary Advisor: [Marcus Hutter](#)
- Co-Advisors: [Joel Veness](#), [Laurent Orseau](#)

Australian National University, Canberra, ACT, Australia

Masters of Mathematical Sciences (Advanced), June 2018

- Thesis Title: [Quantum Algorithms for Universal Prediction](#)
- Primary Advisor: [Marcus Hutter](#)

University of Newcastle, Newcastle, NSW, Australia

Bachelor of Mathematics, Pure Mathematics, December 2016

ACADEMIC PUBLICATIONS

Elliot Catt, [Marcus Hutter](#), [Joel Veness](#), *Reinforcement Learning with Information-Theoretic Actuation*, arXiv preprint, 2021.

Elliot Catt, [Michael Norrish](#), *On the formalisation of Kolmogorov complexity*, International Conference on Certified Programs and Proofs (CPP), 2021.

[Michael K Cohen](#), **Elliot Catt**, [Marcus Hutter](#), *Curiosity Killed or Incapacitated the Cat and the Asymptotically Optimal Agent*, IEEE Journal on Selected Areas in Information Theory, 2021.

Elliot Catt, [Marcus Hutter](#), *A Gentle Introduction to Quantum Computing Algorithms with Applications to Universal Prediction*, arXiv preprint, 2020.

[Michael K Cohen](#), **Elliot Catt**, [Marcus Hutter](#), *A Strongly Asymptotically Optimal Agent in General Environments*, International Joint Conferences on Artificial Intelligence (IJCAI), 2019.

[Tobias Wängberg](#), [Mikael Böörs](#), **Elliot Catt**, [Tom Everitt](#), [Marcus Hutter](#), *A Game-Theoretic Analysis of The Off-Switch Game*, Artificial General Intelligence (AGI) conference, 2017.

Michael H. Meylan, Luke G. Bennetts, Roger J. Hosking, **Elliot Catt** *On the calculation of normal modes of a coupled ice-shelf/sub-ice-shelf cavity system*, Journal of Glaciology, 2017.

Elliot Catt, Michael Coons, Jordan Velich, *Strong normality and generalised Copeland–Erdős numbers*, Integers Journal, 2016.

AWARDS

Australian National University

- Research Training Program Scholarship

University of Newcastle

- AMSI Vocational Research Scholarship (undergraduate)
- Summer Research Scholarship Mathematical and Physical Sciences (undergraduate)
- Computer-assisted Research Mathematics and its Applications Vocational Scholarship (undergraduate)

ACADEMIC EXPERIENCE

Australian National University, Canberra, ACT, Australia

Lecturer

June 2019 to December 2019

- Lecturer for COMP4620: Advanced Topics in Artificial Intelligence for a semester.

Tutor

February 2017 to June 2017

- Assisted in teaching MATH1013: Mathematics and Applications 1 for a semester.

University of Newcastle, Newcastle, NSW, Australia

Tutor

July 2016 to November 2016

- Assisted in teaching MATH1800: Mathematical Modelling for a semester.

TECHNICAL SKILLS

Programming Languages:

- Python, StandardML, C/C++, Lua, Lisp, Prolog, Matlab, Java, L^AT_EX

Operating Systems:

- Windows/Mac/Linux

CITIZENSHIP

Australian