

DANIEL BEECHEY

Department of Computer Science, University of Bath, United Kingdom

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RESEARCH INTERESTS

Reinforcement Learning, Explainable Artificial Intelligence, Hierarchical Reinforcement Learning, Bounded Rationality, Lifelong Learning

EDUCATION

Ph.D in Computer Science

2021 - Present

Univarsity of Bath, Bath, United Kingdom.

Advisors: Özgür Şimşek (Computer Science), Emma Carmel (Social Policy)

Thesis: How to Explain Reinforcement Learning with Shapley Values

M.Res in Accountable, Responsible and Transparent AI

2021 - 2022

Univarsity of Bath, Bath, United Kingdom.

Advisors: Özgür Şimşek (Computer Science), Emma Carmel (Social Policy)

Thesis: Explaining Reinforcement Learning with Shapley Values

Overall Mark: 81 (Distinction)

M.Sc in Data Science

2020 - 2021

Univarsity of Bath, Bath, United Kingdom.

Advisor: Özgür Şimşek

Thesis: Autonomous Routing of Printed Circuit Boards using Hierarchical Reinforcement Learning

Overall Mark: 83 (Distinction)

B.Sc in Mathematics

2017 - 2020

Univarsity of Bath, Bath, United Kingdom.

Overall Mark: 78 (1st Class)

PUBLICATIONS

Daniel Beechey, Thomas M. S. Smith and Özgür Şimşek

Explaining Reinforcement Learning with Shapley Values

ICML 2023

Toby Lewis-Atwell, **Daniel Beechey**, Özgür Şimşek and Matthew N. Grayson

Reformulating Reactivity Design for Data-Efficient Machine Learning

ACS Catalysis, 13(20), 2023

TEACHING EXPERIENCE

M.Sc Reinforcement Learning, Lecturer

2023

Co-Lecturer with Joshua Evans and Thomas Smith.

University of Bath

M.Sc Reinforcement Learning (Online), Lecturer

2023

Co-Lecturer with Jessica Nicholson.

University of Bath

M.Sc Dissertation Project, Supervisor

2023

Lead Supervisor, 2 Students.

University of Bath

M.Sc Dissertation Project (Online), Supervisor

2022 - 2023

Co-Supervisor with Joshua Evans, 3 Students.

University of Bath

B.Sc Dissertation Project , Supervisor Lead Supervisor, 2 Students. <i>University of Bath</i>	<i>2022 - 2023</i>
M.Sc Reinforcement Learning , Teaching Assistant <i>University of Bath</i>	<i>2022 - 2023</i>
M.Sc Dissertation Project , Supervisor Co-Supervisor with Paola Bruscoli and Thomas Cannon, 10 Students. <i>University of Bath</i>	<i>2022</i>
M.Sc Software Technologies for Data Science , Teaching Assistant <i>University of Bath</i>	<i>2022</i>
M.Sc Statistics for Data Science , Teaching Assistant <i>University of Bath</i>	<i>2022</i>
B.Sc Programming, Foundations and Connections , Teaching Assistant <i>University of Bath</i>	<i>2022</i>
B.Sc Mathematical Methods and Applications , Teaching Assistant <i>University of Bath</i>	<i>2021</i>
B.Sc Programming and Discrete Mathematics , Teaching Assistant <i>University of Bath</i>	<i>2021</i>

TALKS

Explaining Reinforcement Learning with Shapley Values Bath Conference of Computer Science	<i>2023</i>
Alan Turing Institute Student Presentations	<i>2023</i>

AWARDS

Bath Conference of Computer Science, Best Overall Contribution	<i>2023</i>
Inter-AI CDT Conference, Best Poster	<i>2023</i>