Ben Macintosh
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Australian, English speaking, date of birth January 15 1997

Education

Munich Center for Mathematical Philosophy, LMU, Master of Logic and Philosophy of Science, 1.74 (82/100), 2021-2023

University of Sydney, Bachelor of Science Honours, 2015-2019

- Advanced Physics and Pure Mathematics, Second-Class, thesis at EQUS quanutm information group 86/100

Marist College North Shore, Sydney, Higher School Certificate 93.35/100, 2014

Papers in preparation

"Skepticism about isolated explanations of Large Language Models", supervised by Tom Sterkenburg, Hannes Leitgeb second reader

- from Masters' thesis connecting Wittgenstein and Davidson's philosophy of language to contemporary debates in philosophy of machine learning
- presented at PhAI'23 conference in Erlangen for proceedings volume to be published by Springer, acceptance rate 18%, however I have delayed my submisison (extended abstract)

"Exact maximum-likelihood decoding for free-fermion-solvable Floquet codes under symmetric noise", with Adrian Chapman

- regarding error correction in fermionic Floquet quantum codes, accepted and presentated by Adrian to APS Physics March Meeting 2024 (link)

Academic experiences

Accepted participant Oxford Future Impact Group (Global Prioirities Institute), writing paper on semantic externalism and AI risk with Brad Saad, March-June 2024

Accepted participant, MESEC consciousness science workshop, presented work and connected with consciousness science researchers (incl. Lucia Melloni, John-Dylan Haynes, Camilo Miguel Signorelli), Corsica, 1 week Summer 2022

Research Assistant, EQUS Quantum Theory group, Sydney University, with Adrian Chapman I worked on two papers involving graph-theoretic foundations of quantum contextuality, error correction in many-body systems "Scrambling of Majoranas and statistical mechanics of random matchgate circuits" making use of advanced representation theory, 2020-2023

Summer research scholarship, Sydney University Complex Systems group, working on novel machine learning 'Atomic Switch network' developed by a group at NIMS Japan, 2018

Specialities

Can follow latest research in natural language processing (LLMs, automated theorem proving, explanation methods), quantum information theory, mathematical graph theory, linear algebra
Constructivist linguistics, pragmatist philosophy of language, philosophy of machine learning, AI and Data Governance

Confident programming skills in Python, Matlab, Mathematica, Javascript, Adobe Suite and Rhino software
Basic experience with React, MySQL, Tensorflow, LLM frameworks

Non-academic experiences

Casual event work with Sydney Florist 'Mi Violeta', Mandalay Flowers Double Bay and freelance gardening in Sydney, 2018-2020
Art commentary published in Runway Australian arts Journal, 2020
Grizedale Arts Summer School, Kiwanasato Japan, community engaged countryside construction project alongside award-winning architect Takeshi Hayatsu, 2019
Labour work with award-winning Sydney architect and builder Drew Heath, 2016
Sydney Biennale volunteer exhibit host, 2018, St Vincent's Night Patrol monthly volunteer, 2017-2020

Referees

Dr. Tom F. Sterkenburg
Emmy Noether group leader, Munich Center for Mathematical Philosophy, LMU
tom.sterkenburg@lmu.de

Prof. DDr. Hannes Leitgeb
Professor of Philosophy, LMU
Co-Director of the Munich Center for Mathematical Philosophy
Hannes.Leitgeb@lmu.de

Dr. Adrian Chapman
Research Fellow, University of Oxford Quantum Materials group
adrian.chapman@materials.ox.ac.uk

Dr. Linda O'Brien AM HFTGN (for character reference)
Principal, School Leadership at NSW Department of Education, linda.obrien@det.nsw.edu.au