

JONATHON SCHWARTZ

+1 (438) 275 5581 [◇ jonathon.schwartz@anu.edu.au](mailto:jonathon.schwartz@anu.edu.au)

[Google Scholar](#) [◇ GitHub](#) [◇ Website](#)

EDUCATION

- Sep 2020- **MPhil in Computer Science**
Australian National University
Advisors: Hanna Kurniawati, Marcus Hutter
- 2016-2018 **BSc in Computer Science, with honors** (GPA: 6.79/7.00)
University of Queensland
Advisor: Hanna Kurniawati
- 2010-2014 **BMarSt in Marine Biology and Ecology, with honors** (GPA: 6.34/7.00)
University of Queensland
Advisor: Craig Franklin

GRANTS, SCHOLARSHIPS & AWARDS

- 2020 **AI for Decision Making Grant**, NSW Defence Innovation Network
\$20,000 grant to develop a multi-agent Reinforcement Learning environment incorporating deception and uncertainty.
- 2020 **Graduate Research Scholarship**, Australian National University
\$28,092/year + tuition for MPhil studies
- 2018 **University Medal**, University of Queensland
Highest undergraduate prize awarded by the university.
- 2018 **ITEE Innovation Showcase Best Software Project**, University of Queensland
\$1000 prize for the best undergraduate computer science or engineering thesis project.

PUBLICATIONS

- 2020 **J. Schwartz**, H. Kurniawati, and E. El-Mahassni
POMDP + Information-Decay: Incorporating Defender's Behaviour in Autonomous Penetration Testing.
ICAPS, vol. 30, pp. 235-243.
- 2020 C. Baillie, M. Standen, **J. Schwartz**, M. Docking, D. Bowman and J. Kim
CybORG: An Autonomous Cyber Operations Research Gym.
arXiv preprint arXiv:2002.10667
- 2019 **J. Schwartz**
Autonomous Penetration Testing using Reinforcement Learning.
(*BSc Thesis*) *arXiv preprint arXiv:1905.05965*
- 2015 E. Rodgers, **J. Schwartz**, C. Franklin.
Diving in a warming world: the thermal sensitivity and plasticity of diving performance in juvenile estuarine crocodiles (*Crocodylus porosus*).
Conservation physiology, 3(1), 2015.

EMPLOYMENT

Mar 2019-	Research Engineer , Australian National University
Aug 2020	Working with the Australian Government Defence, Science, and Technology group to develop a high-fidelity environment for cyber-security AI research.

ACADEMIC SERVICE

2021	Reviewer , IEEE Robotics and Automation Letters
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TEACHING

2019	Teaching Assistant , Australian National University COMP3600 Algorithms
2018	Teaching Assistant , University of Queensland COMP3702 Artificial Intelligence
2011, 2012	Teaching Assistant , University of Queensland GEOM1000 Geographic Information
2011	Teaching Assistant , University of Queensland BIOL1030 Biodiversity & Our Environment

OPEN SOURCE

NASim	Network Attack Simulator for AI Penetration Testing github.com/Jjschwartz/NetworkAttackSimulator , 43 Stars
BDGym	Multi-agent gym environments for exploring benevolent deception github.com/RDLLab/benevolent-deception-gym
rltorch	Reinforcement Learning algorithm implementations in PyTorch github.com/Jjschwartz/rltorch
rljaxforfun	Reinforcement Learning algorithm implementation in JAX github.com/Jjschwartz/rljaxforfun

PROGRAMMING KNOWLEDGE

Programming	Python, C, C++, Java
Deep Learning	JAX, PyTorch, TensorFlow
Planning	SARSOP, DESPOT, POMCP

ADDITIONAL EDUCATION

2018	Deep Learning Specialization , Coursera, deeplearning.ai
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