Owen Lockwood

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EDUCATION

- **Rensselaer Polytechnic Institute** — Troy, NY
  Bachelor of Science in Computer Science and Philosophy, Minor in Physics; GPA: 3.88 — *Aug. 2018 – May. 2022*
  - **Relevant Coursework**: Machine Learning From Data, Learning and Advanced Game AI, Formal Logic and AI, Linear Algebra, Quantum Mechanics, Organic Chemistry I/II, Molecular Modelling, Cryptography, Ethics
- **Poudre High School** — Fort Collins, CO
  International Baccalaureate (IB) Diploma; GPA: 4.35 (Salutatorian) — *Aug. 2014 – May. 2018*

EXPERIENCE

- **Rensselaer Polytechnic Institute** — Troy, NY
  Student Researcher, Si Group, Department of Cognitive Science — *Feb. 2020 - Present*
  - **Research Focus**: Working on combining model free reinforcement learning and quantum computing, evaluating the potential quantum advantages of using parameterized quantum circuits

  Student Researcher, Garde Group, Department of Chemical and Biological Engineering — *Sep. 2018 - Present*
  - **Research Focus**: Analysis of molecular simulations with machine learning techniques, specifically feature extraction of local molecular structures in liquid water
- **Colorado State University** — Fort Collins, CO
  Student Research Assistant, Wu Group, Department of Physics — *May. 2018 - Aug. 2018*
  Student Research Assistant, Levinger Group, Department of Chemistry — *May. 2018 - Aug. 2018*

PUBLICATIONS AND WRITINGS

- **Lockwood, Owen**, and Mack Qian. "Replicating Softmax Deep Double Deterministic Policy Gradients." *ReScience*. Under Review. 2020.

- **Lockwood, Owen**, and Mei Si. "Playing Atari with Hybrid Quantum-Classical Reinforcement Learning." *The pre-registration experiment: an alternative publication model for machine learning research.* Neural Information Processing Systems. Workshop. 2020.

- **Lockwood, Owen**. "My experience with TensorFlow Quantum." *The Tensorflow Blog*, Google, 27 Nov. 2020, https://blog.tensorflow.org/2020/11/my-experience-with-tensorflow-quantum.html

- **Lockwood, Owen**, and Mei Si. "Reinforcement Learning with Quantum Variational Circuit." *Proceedings of the AAAI Conference on Artificial Intelligence and Interactive Digital Entertainment.* Vol. 16. No. 1. 2020.

HONORS AND AWARDS

- **First Place Poster, Computational Sciences** — 2019
  Rensselaer Polytechnic Institute Undergraduate Research Symposium
- **Meritorious Paper Winner (top 5%)** — 2019
  The Mathematical Contest in Modeling (MCM)
- **Rensselaer Leadership Award** — 2018
- **2nd Place in 10-19 Age Group** — 2017
  Beat the Heat Marathon

SKILLS

- **Technical**: Python, C/C++, FORTRAN, MIPS, Java, Haskell, TensorFlow, TensorFlow-Quantum, Cirq, LaTeX

- **Non-Technical**: Technical Writing, Public Speaking, Research, Philosophy, Teamwork, Problem-Solving

PROJECTS AND EXTRACURRICULAR ACTIVITIES

- **Rensselaer Polytechnic Institute Judicial Board** — Troy, NY
  Vice-Chair, Student Motor Vehicle Chair, and Treasurer — *Jan. 2019 - Present*
- **Rensselaer Center for Open Source** — Troy, NY
  Project Member: Open Source Curriculum and Cybernetics Core — *2018-2019*
- **Upsilon Pi Epsilon**
  International Honor Society for the Computing and Information Disciplines — *Dec. 2020 - Present*