ADRIEN ECOFFET

Research Scientist, OpenAI

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EDUCATION

Georgia Institute of Technology *2017 – 2018*
MS Computer Science – Machine Learning *GPA: 4.0*
TA for *Computational Photography* and *Reinforcement Learning*

Epitech *2009-2013*
BS Computer Science *GPA: 3.64*
TA for *Functional Programming with OCaml*

University of California, San Diego *2013*
Exchange student, Computer Science (Winter, Spring, Summer) *GPA: 3.97*

WORK EXPERIENCE

OpenAI *(San Francisco, CA)*
Research Scientist *May 2020 – present*
- Research on multi-agent reinforcement learning at scale.

Uber *(San Francisco, CA)*
Research Scientist *Jun 2019 – May 2020*
AI Resident *Jun 2018 – Jun 2019*
- Research on reinforcement learning and AI safety leading to publications in Nature, ICML, IJCAI and ALife, as well as NeurIPS and ICLR workshops. Primary contributor to the Go-Explore algorithm, which received press coverage from New Scientist, Scientific American, and the BBC, among others.

Quora *(Mountain View, CA)*
Staff Software Engineer *Jul 2017 – Jan 2018*
Software Engineer *Dec 2013 – Jul 2017*
Software Engineering Intern *Aug 2012 – Dec 2012*
- Implemented much of the ads backend as a founding member of the ads team. Implemented several search-related products including full-text search. Significantly improved ads revenue and question answer rates through improving the CTR prediction and feed ranking ML models.

JOURNAL AND CONFERENCE PUBLICATIONS

- **Ecoffet, A**., Huizinga, J., Lehman, J., Stanley, K.O. and Clune, J., 2021. First return, then explore. *Nature, 590(7847)*, pp.580-586.

- Madotto, A., Namazifar, M., Huizinga, J., Molino, P., **Ecoffet, A.**, Zheng, H., Papangelis, A., Yu, D., Khatri, C. and Tur, G., 2020. Exploration based language learning for text-based games. *International Joint Conferences on Artificial Intelligence (IJCAI)*.

- Edwards, A., Sahni, H., Liu, R., Hung, J., Jain, A., Wang, R., **Ecoffet, A.**, Miconi, T., Isbell, C. and Yosinski, J., 2020, November. Estimating q (s, s) with deep deterministic dynamics gradients. *In International Conference on Machine Learning (ICML)* (pp. 2825-2835). PMLR.

- **Ecoffet, A.**, Clune, J. and Lehman, J., 2020, July. Open Questions in Creating Safe Open-ended AI: Tensions Between Control and Creativity. *In Artificial Life Conference Proceedings (ALife)* (pp. 27-35). One Rogers Street, Cambridge, MA 02142-1209 USA journals-info@ mit. edu: MIT Press.

OTHER PUBLICATIONS

- **Ecoffet, A**., Huizinga, J., Lehman, J., Stanley, K.O. and Clune, J., 2019. Go-explore: a new approach for hard-exploration problems. *arXiv preprint arXiv:1901.10995.*

- **Ecoffet, A.** and Lehman, J., 2020. Reinforcement Learning Under Moral Uncertainty. *arXiv preprint arXiv:2006.04734.*

- Yu, D., Khatri, C., Papangelis, A., Madotto, A., Namazifar, M., Huizinga, J., **Ecoffet, A.**, Zheng, H., Molino, P., Clune, J. and Yu, Z., 2019, January. Commonsense and semantic-guided navigation through language in embodied environment. In ViGIL@ NeurIPS.

- **Ecoffet, A.**, Huizinga, J., Lehman, J., Stanley, K.O. and Clune, J., 2018. Montezumas revenge solved by go-explore, a new algorithm for hard-exploration problems (sets records on pitfall, too). *Uber Engineering Blog.*

PATENTS AND PATENT APPLICATIONS

- Clune, J.M., **Ecoffet, A.L.**, Stanley, K.O., Huizinga, J. and Lehman, J.A., Uber Technologies Inc, 2020. *Deep reinforcement learning based models for hard-exploration problems.* U.S. Patent Application 16/696,893.

SELECTED PRESS ARTICLES

- **BBC News**. 2021. AI conquers challenge of 1980s platform games

- **Scientific American**. 2021. Machine Learning Pwns Old-School Atari Games

- **New Scientist**. 2021. AI smashes video game high scores by remembering its past success

- **VentureBeat**. 2021. How AI trained to beat Atari games could impact robotics and drug design

- **Der Spiegel**. 2021. Künstliche Intelligenz zockt besser als der Mensch (in German)

- **Digital Trends**. 2021. Chess. Jeopardy. Go. Why do we use games as a benchmark for A.I.?

- **Technology Networks**. 2021. Algorithm Racks Up Superhuman Scores in 55 Classic Atari Games

- **Singularity Hub**. 2021. This AI Thrashes the Hardest Atari Games by Memorizing Its Best Moves

- **MIT Technology Review**. 2018. Uber has cracked two classic 80s video games by giving an AI algorithm a new type of memory.

MISCELLANEOUS

- Reviewer for ICML.