Willie McClinton

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EDUCATION

MASSACHUSETTS INSTITUTE OF TECHNOLOGY — Cambridge, MA
Ph.D. in Electrical Engineering and Computer Science, Concentration: AI and Robotics — 2021-2026 (expected)

- GPA: 4.8 /5.0 Highlighted Honors: NSF GRFP Recipient ($\sim$ 16% acceptance) and MIT Presidential Fellowship ($\sim$ 2% acceptance)
- Master's Thesis: Learning Compositional Abstract Models Incrementally for Efficient Bilevel Task and Motion Planning
- Research Interests: Machine Learning, Deep Learning, Representation Learning, Task and Motion Planning, and Program Synthesis
- Skills: ML Modeling (Pytorch, Jax, Scikit-learn) — Software/Data Engineering (Python, C++, Javascript, Go, R, SQL, Q/KDB)
- Advisors: Drs. Leslie Kaelbling and Tomas Lozano-Perez

UNIVERSITY OF SOUTH FLORIDA — Tampa, FL
Bachelor of Science in Computer Science, Minor in Mathematics — 2016-2020

- GPA: 4.00/4.00 Highlighted Honors: Summa Cum Laude, King O'Neal Scholar (4.0 GPA - top of class >10000), Marshall Scholarship (Finalist), Knight-Hennessey Scholar Program (Finalist), Barry Goldwater Scholarship (Winner), and Dean's List

WORK EXPERIENCE

SCHONFELD SECURITIES — New York, NY
Quantitative Researcher — June 2024 - Present

- Worked on Neutrality team led by Schonfeld's Chief Scientist that manages highest AUM of quantitative strategies for the firm
- Refactored alternative data pipeline (built in pyq), connected three new data lines, and designed new market (Barra) neutral alphas

WALL STREET QUANTS — Remote
Teaching Assistant — April 2024 - Present

- Wrote 100+ step-by-step solutions to quant interview questions on Notion, supervised by quants who have 10+ years of experience
- Designed evaluation in jupyter notebook for students to learn about automated market-making, using object-orientated programming to automatically create a bid-offer spread, and concepts like skewed price making, transaction costs, and ETF arbitraging

RESEARCH EXPERIENCE

BOSTON DYNAMICS AI INSTITUTE — Cambridge, MA
Research Engineer (1st intern) — November 2022 - May 2024

- Worked with Research Lead Jennifer Barry to build a Task and Motion Planning system with hand designed skills and perception for BDAII's quadruped robotic dog Spot, as well as integrated a simulator, enabling IK and FK motion planning in real-time
- Designed human interfacing capabilities with our planning system utilizing LLMs for automated translation to propositional logic
- Published our work on combining learning and planning to solve real-world long-horizon tasks at RSS 2024

GOOGLE RESEARCH — Mountain View, CA
Research Scientist — October 2020 - December 2021

- Improved unsupervised and semi-supervised computer vision systems by adding the ability to learn representations that are equivariant to data augmentations during Contrastive Learning, creating a 100x improvement in augmentation time for new datasets
- Implemented modern and traditional RL algorithms as baselines (Dynamic Programming, Monte Carlo, TD-Learning, Sarsa, DDPG, A3C, DQN, etc.) and explored research directions in improving the convergence speed of Deep Hierarchical RL approaches

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY — Gaithersburg, MD
Summer Undergraduate Research Fellow — May 2017 - August 2017

- Parsed the YFCC100M and HAVIC databases (>100 Million vids) with SQL to synthesize eval datasets for the competition
- Reduced scoring time by 10x by implementing parallelization in the new Ruby/Rake evaluation
- Published analysis and findings in the proceedings of TREC Video Retrieval Evaluation (TRECVID) (2017)

SELECTED PUBLICATIONS

1. "Practice Makes Perfect: Planning to Learn Skill Parameter Policies" Silver*, T., Kumar*, N., McClinton, W., et. al. RSS: Robotics Science and Systems Conference (2024).
2. "Learning Efficient Abstract Planning Models that Choose What to Predict" McClinton*, W., and Kumar*, N. et al. Best Paper at RSS Workshop on L4TAMP. Full Paper at CoRL Conference on Robot Learning (2023)
3. "Predicate Invention for Bilevel Planning" Silver, T., et al. AAAI Conference on Artificial Intelligence (2023)
4. "Steerable Representation Learning" Bhardwaj, S., and McClinton, W., et al. [https://arxiv.org/abs/2302.11349] (2023)

Patents: US Patent 11048928 and 11989936.

SKILLS & INTERESTS

- Languages: Proficient in Python, C/C++, JavaScript, Bash; prior experience in Lisp, Matlab, Java, R, SQL, and Q/KDB
- Certificates: Bloomberg Market Concepts Cert., Coursera ML/DL by A. Ng, HarvardX STAT110x, and KDB+/Q Dev KX Cert.
- Interests: Director of MIT Bitcoin Expo 2024, Hobby-Robotics, and Brazilian Jiu Jitsu (Blue-Belt)