Kevin Corder

PhD Candidate at University of Delaware

kcorder@udel.edu kcorder.github.io (302) 588-4400

Education

University of Delaware, College of Engineering – Newark, DE

Dec. 2021 *PhD in Computer Science* (anticipated)

- Thesis Topic: Decentralized Multi-Agent Reinforcement Learning
- Other work: Cooperative Game Theory, Neuromorphic Computing

Dec. 2016 *M.S. in Computer Science*

May 2014 *B.S. in Computer Science, Minor in Mathematics*

Experience

2017–current **Army Research Laboratory** – Aberdeen, MD

Journeyman Research Fellow in ML and neuromorphic computing group

- Designed and implemented massively parallel neuromorphic system to approximate minimum Vertex Cover on IBM TrueNorth
- Collaborating between ARL and UD for a degree researching multi-agent reinforcement learning and neuromorphic computing

2015–2017 **University of Delaware** – Newark, DE

Graduate Instructor for Data Structures & Algorithms course

- Gave 20 two-hour lectures in previous three summer sessions
- Designed all lecture material, assignments, exams and managed a TA
- Received great course evaluations (4.5/5 avg) and lasting student relationships

2014–2017 **University of Delaware** – Newark, DE

Graduate Teaching Assistant for software engineering and other courses

- Managed lab sessions and hold office hours to help students
- Covered lectures, help instructors design class, and grade written or code assignments

2013–2014 **JPMorgan Chase** – Wilmington, DE

Application Development Intern in Customer Experience Analytics

- Wrote PostgreSQL methods on big data to investigate hypotheses about customer spending relationships and size opportunities to cut company costs

Publications

- "Shapley Value Approximation with Divisive Clustering," **Kevin Corder**, Keith Decker. ICMLA 2019 [28% Accept]
- "Q-Learning Acceleration via State-space Partitioning," Haoran Wei, **Kevin Corder**, Keith Decker. ICMLA 2018. [31% Accept]
- "Solving Vertex Cover via Ising Model on a Neuromorphic Processor," **Kevin Corder**, John V. Monaco, Manuel M. Vindiola. ISCAS 2018. [53% Accept]

Accepted Presentations

- "Decentralized Multi-Agent Actor-Critic with Generative Inference," **Kevin Corder**, Manuel M. Vindiola, Keith Decker. Deep Reinforcement Learning Workshop, NeurIPS 2019.
- "Decentralized Multi-Agent Actor-Critic with Generative Inference," **Kevin Corder**, Manuel M. Vindiola, Keith Decker. Reinforcement Learning in Games Workshop, AAAI 2020.

Teaching

- Instructor for Data Structures & Algorithms course for three summers 2015–2017
- Teaching assistant for three years in: Advanced Software Engineering, Introduction to Software Engineering, Intro to Programming I (CS majors), Intro to Programming I (non-CS), Intro to Programming II
- Co-wrote auto-grading software for Intro to Programming I course for during one semester as TA

Awards & Honors

- Graduate Finalist for 2017 ARL Summer Research Symposium
- University of Delaware Professional Development Award 2019
- NeurIPS Student Travel Award 2019

Computing Skills

- Programming: Python (expert), C++ (proficient),
  (familiar with) C, Matlab, Java, Lisp, SQL, Assembly, R, Mathematica
- Python Frameworks: PyTorch, NumPy, SciPy, Scikit-Learn, Ray Tune & RLlib
- Markup: LaTeX, Markdown, HTML

Overview

- Research experience in applying efficient machine learning solutions to diverse problems
- Experience at planning, managing, and executing large independent and team projects
- Skilled at communicating technical ideas
- Proficient at programming and software engineering design
- Review papers for several conferences yearly