KAIWEN WANG

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA Expected Dec 2019

- Bachelor of Science in Computer Science with an additional major in Math
- Relevant Coursework: Machine Learning[G], Algorithms and Data Structures[G], Distributed Systems[G], Operating Systems[C], Real Analysis, Probability, Graph Theory, Combinatorics
- Cumulative GPA: 4.00/4.00 G - graduate course, C - Fall 2019

SKILLS

Programming Languages	Python, C/C++, Go, JavaScript, Java, Standard ML, MATLAB
Software and Libraries	PyTorch, PySpark, TensorFlow, CUDA, NodeJS, D3, Git, LaTeX
Spoken Languages	English (Native), 中文（普通话）(Native), Français (Fluent)

EXPERIENCES

Research Engineering Intern, Facebook AI Research May 2019 - Aug 2019
Facebook Inc., Menlo Park, CA

- Designed and implemented distributed RL framework, including environment, prioritized replay, actors, and learners that trains Ape-X and R2D2 with state-of-the-art performance on Atari and Hanabi.
- Built with PyTorch in Python and C++, binded with Pybind and deployed with TorchScript, our multi-threaded actors are 4x more efficient than Deepmind's implementation in Ape-X paper.

Research Assistant - Machine Learning, Prof. Nina Balcan Dec 2018 - Present
Machine Learning Department, Carnegie Mellon University, Pittsburgh, PA

- Devised and implemented multi-nodal, differentially private, distributed decision tree learning algorithms in C++. The algorithm improves accuracy by 15% on MNIST compared to baseline.

Distributed Systems Teaching Assistant Jan 2019 - May 2019
Computer Science Department, Carnegie Mellon University, Pittsburgh, PA

- For 15-440 with Prof. Satyanarayanan, where I led recitations, held weekly office hours, and graded projects and exams. Topics include caching, RPC, concurrency, scaling, virtualization and networks.

Research Intern - Machine Learning May 2018 - Aug 2018
DataVisor Inc., Mountain View, CA

- Implemented an automated quality monitoring system for core unsupervised machine learning (UML).
- Deployed the quality monitoring project as a Web app written in NodeJS using Express and D3.

Research Assistant - Computational Biology, Prof. Min Xu January 2017 - Aug 2018
Computational Biology Department, Carnegie Mellon University, Pittsburgh, PA

- Developed a novel Monte Carlo method for statistical assessment of CECT template matching.
- First-authored paper at CV conference BMVC 2018 (acceptance rate 29.9%). Available on my website.

PROJECTS

Autonomous Mobile Robot (Mobot) Apr 2018 and Apr 2019

- Implemented automated guidance heuristics for an autonomous Mobot capable of outdoors navigation.
- First place winner in the 24^{th} and 25^{th} annual CMU Mobot Race with fastest time in past six years.