

Sarah Brockman

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Summary

Primarily interested in machine learning engineering. Currently a full-time Research and Development Engineer at Kitware.

Education

University of Massachusetts, Amherst

M.S. Computer Science

May 2021, 4.0 GPA

- Paper at NeurIPS 2019 titled “Offline Contextual Bandits with High Probability Fairness Guarantees”
- Previous research assistant in the Laboratory for Advanced Software Engineering Research (LASER)
- Baystate Fellowship, ACM travel award recipient

B.S. Computer Science, B.S. Computational, Applied Mathematics; Statistics

May 2019, 3.9 GPA

- Undergraduate research assistant in the Autonomous Learning Laboratory (ALL) for honors thesis
- Member of the Commonwealth Honors College with Departmental Honors in CS

Experience

Kitware, Inc.

Clifton Park, NY

R&D Intern - Computer Vision

May 2020 - Aug. 2020

- Developed face recognition module in ROS distributed network to enhance person re-identification capability
- Performed extensive literature review; analyzed and compared numerous state-of-the-art face recognition models on multiple datasets in mxnet and pytorch
- Verified robust model performance in low-resolution scenarios and a high-throughput real-time environment
- Integrated novel code into existing software stack and tested it thoroughly with data from previous deployments in the field

MIT Lincoln Laboratory

Lexington, MA

Machine Learning Intern - Cyber Operations and Analysis Technology

May 2019 - Aug. 2019

- Developed a quantitative metric for testing a first-ever natural language document to workflow net generator for automatic process mining
- Implemented a graph search algorithm similar to A* to align workflow instances with a workflow net
- Developed optimization heuristics for the search algorithm to ensure efficiency for all possible inputs
- Paper published at the International Conference on Process Mining, 2020

Machine Learning Intern - Space Systems Analysis and Test

May 2018 - Aug. 2018

- Developed a convolutional neural network to detect closely-spaced objects (CSOs) in space using single and binary star data from telescopes
- Tested model accuracy against various angular separations and magnitude differences in CSOs
- Paper presented at AFRL Space Situational Awareness Conference, 2018

Knolls Atomic Power Laboratory

Niskayuna, NY

Software Engineering Intern

May 2017 - Aug. 2017, Winter 2017

- Developed physics analysis software for collecting and processing data during tests on nuclear reactors
- Created a GUI for automatic verification of input data used in live measurements during field tests
- Wrote comprehensive unit tests and performed manual software testing

Skills

- Programming: Python, MATLAB, SQL, SAS, Java, C++, C
- Environments/Technologies: Windows, Linux/Unix, Vim, Git, bash, ROS, Pytorch, Tensorflow, Spark, Scrum/Agile Development
- Coursework: Neural Networks, Systems and Algorithms for Data Science, Advanced NLP, Probabilistic Graphical Models