# Sarah Brockman

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## Summary

My interests lie at the intersection of machine learning and software engineering. Currently seeking full-time machine learning engineer or machine learning and software R&D positions.

## Education

**University of Massachusetts, Amherst**

*M.S. Computer Science*                                                                 Sep. 2019 - 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 to be 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