DAN SCARAFONI

Machine Learning Engineer and Data Scientist

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SUMMARY

Ph.D. level machine learning/data scientist at MIT Lincoln Laboratory and Georgia Institute of Technology. Top researcher, engineer, and data scientist.

TECHNICAL SKILLS

Skill	Years	Skill	Years	Skill	Years
Machine learning / AI / Statistics	8 years	**TensorFlow / Keras**	5 years	**Data science**	8 years
Data pipelines	5 years	**C/C++**	2 years	**Computer vision**	6 years
Natural language processing	3 years	**Python**	7 years	**Pytorch**	7 years
Matlab	3 years	**Data visualization**	8 years	**Time series analysis**	5 years
Teaching	3 years	**Cloud ML**	6 years	**Team Leadership**	4 years
HPC/SLURM	7 years	**Internet of things**	5 years	**Robotics**	5 years

WORK EXPERIENCE

Graduate Researcher in Machine Learning and Computer Vision   Aug 2018 - Jan 2023
Sample Projects   *Georgia Institute of Technology, Atlanta, GA*

· Long-term video action production: built Recurrent Neural Network (RNN) for video data to anticipate long term human actions for safe human-robot collaboration. Used Pytorch, Python, SLURM, deep learning, convolutional neural networks (CNNs). Increased accuracy over 30% on benchmark datasets.

· Action Recognition for human robot collaboration: built CNN for human activity recognition. Built machine learning, data pipelines, results analysis and visualization. Used Python, Pytorch, Matplotlib, CNNs, SLURM. Proved viability of machine learning for safe human robot collaboration in industrial processes for corporate sponsor.

· Led Perception for CO-Manipulation (PCOM) group of over a dozen student researchers. Built and managed testbed using Python, Pytorch, Linux, IMU sensors, JACO robot arm, and Robot Operating System. Resulted in dozens of successful student research studies and master's theses.

Summer Intern   June 2019 - August 2022
Sample Projects   *Nokia Bell Labs, Murray Hill, NJ*

Designed, built, and evaluated software manager for network KPI predictor. Used Linux, Keras, time series forecasting, LSTMs/RNNs. and Matplotlib. Won "Top Intern Project" two internships in a row.

Associate Staff: Software Engineer   May 2015 - August 2018
Sample Projects   *MIT Lincoln Laboratory*

· Led design and implementation of CNN classifier to identify viral tropism from protein sequences. Used Keras, Tensorflow, Python, Matplotlib, and SLURM. Achieved top prediction accuracy on real-world viral data. Results published in Health Security 2019.

PATENTS

Thornton Jason et al., inventor;. Methods for Learning Network Architectures of Deep Convolutional Neural Networks under Resource Constraints. U.S Application No. 62/589647. Filing Date November 22, 2017.

Chan, Michael et al, Inventor. Methods for Detecting Objects-of-Interest in Underwater Environments. U.S Application No. 62/443085. Filing Date January 6, 2017.

AWARDS AND RECOGNITIONS

Nokia Bell Labs Summer Intern project finalist 2019 and 2021
2018 Recipient of $25000 Raytheon Fellowship
2018 President's Fellow from Georgia Institute of Technology

EDUCATION

Ph.D. Machine Learning   August 2018 - May 2023
Georgia Institute of Technology, Laboratory for Ubiquitous Computing and Computational Behavioral Analysis, Atlanta, GA
Advisors- Thomas Plötz and Irfan Essa

B.S./M.S.c. Computer Science   August 2011 - May 2015
University of Rochester, Rochester, NY GPA: 3.88, emphasis- machine learning and human-computer interaction Advisor- Philip Guo