

Will Spaeth

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EDUCATION

Georgia Institute of Technology Master of Science, Robotics <i>Relevant Coursework:</i> Optimization for Robotics, Linear Controls	Spring 2024
University of Oklahoma Bachelor of Science, Computer Science – Summa Cum Laude <i>Relevant Coursework:</i> Advanced Machine Learning, Artificial Intelligence <i>Studied abroad</i> at Blaise-Pascal University in Clermont-Ferrand, France	Spring 2020 GPA: 3.88
Massachusetts Institute of Technology – Advanced Study Program <i>Relevant Coursework:</i> Statistical Learning Theory	Fall 2021 GPA: 4.00

EXPERIENCE

Graduate Research Assistant – Ha Lab <ul style="list-style-type: none">Researching improvements to visual navigation in dynamic scenes using reinforcement learning. Utilizing Habitat simulator for realistic visual simulation. Advised by Sehoon Ha.	Dec. 2022 - Present
Machine Learning Research Engineer – MIT Lincoln Laboratory <ul style="list-style-type: none">Developed drone detection framework combining object detection models (YOLO) with stereoscopic vision for drone chasing.Created NLP models (Transformers, LSTMs, CNNs) and Bayesian optimization pipelines for Covid antibody protein design. Patent pending.Developed graph neural networks for crystal structure property prediction.Built ML pipelines for trajectory prediction using CNNs and LSTMs. Optimized for interpretability and anomaly detection.Developed weather radar nowcasting method using CNN-LSTMs and U-Net.Create Pytorch workflow package for distributed training on MITLL's supercomputer, leveraging 100s of GPUs. Package improved model training speed from 4 months to 1 week and streamlined multiple projects' software.	June 2020 – 2022
ML Research Intern – MIT Lincoln Laboratory <ul style="list-style-type: none">Built interpretable CNNs for image classification.	Summer 2019
ML Research Assistant – Symbiotic Computing Lab, University of Oklahoma <ul style="list-style-type: none">Created new convolutional regression technique to find undiscovered patterns in infants at risk of cerebral palsy.	Spring 2017 - 2020

PATENTS & PUBLICATIONS

End-to-End Machine Learning-Driven Design of Targeted Monoclonal Antibodies (Pending) <ul style="list-style-type: none">Patent No. 63/373,682, Filed 8/26/2022
Graph Contrastive Learning for Materials <ul style="list-style-type: none"><i>AI for Accelerated Materials Design NeurIPS'22 Workshop</i>

SKILLS

Experienced: Python, Pytorch, Keras, Tensorflow, ROS, SLURM
Proficient: C/C++
Familiar: MATLAB, R, Java
French Fluency