# Will Spaeth

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## EDUCATION

**University of Oklahoma** — Spring 2020
**Bachelor of Science, Computer Science – Summa Cum Laude** — **GPA:** 3.88
*Relevant Coursework:* Advanced Machine Learning, Artificial Intelligence
*Studied abroad* at Blaise-Pascal University in Clermont-Ferrand, France

**Massachusetts Institute of Technology – Advanced Study Program** — Fall 2021
*Relevant Coursework:* Statistical Learning Theory

## EXPERIENCE

**Machine Learning Research Engineer** – *MIT Lincoln Laboratory* — June 2020 – Current

- Developing drone detection framework combining object detection models with stereoscopic vision for drone chasing.
- Created natural language processing models (**Transformers, LSTMs, CNNs)** and **Bayesian optimization** pipelines for Covid antibody protein design.
- 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** to separate spatial and temporal aspects of video regression.
- 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.

**ML Research Intern** – *MIT Lincoln Laboratory* — Summer 2019

- Built interpretable **CNNs** for image classification.

**ML Research Assistant** – *Symbiotic Computing Lab, University of Oklahoma* — Spring 2017 – Spring 2020

- Built time-to-failure regression models for equipment failures using **CNNs** and **LSTMs**.
- Created new convolutional regression technique to find undiscovered patterns in infants at risk of cerebral palsy.

## SKILLS

**Experienced:** Python, Pytorch, Keras, Tensorflow, SLURM — June 2020 – Current
**Proficient:** Java, C/C++
**Familiar:** MATLAB, R, ROS
French Fluency

## HONORS / ACTIVITIES

**Engineering Representative** — 2018

- Elected by student body of ~3000 engineering students
- Student spokesperson for the College of Engineering

**Dean's Leadership Council** — 2017-2019

- Mentored group of freshmen to ease transition into college

**Mercury Robotics Competition Team** — 2019-2020

- Designed and built a teleoperated robot to participate in the OSU Mercury robotics competition