

## EDUCATION

---

### Massachusetts Institute of Technology (MIT)

*Candidate for Bachelor of Science in Electrical Engineering and Computer Science* • GPA: 4.8/5.0

Cambridge, MA

June 2020

### New Holstein High School

• GPA: 4.0/4.0 • Rank: 1/90

New Holstein, WI

Sep 2012 – May 2016

### Relevant Coursework

• Advances in Computer Vision • Machine Learning • Underactuated Robotics • Performance Engineering • Design and Analysis of Algorithms

## EXPERIENCE

---

### Research at the MIT CSAIL

*Undergraduate Researcher in the Torralba Lab*

Cambridge, MA

Sep 2019 – current

- Published first-author paper to ECCV 2020 on detecting natural disasters in imagery (<http://incidentsdataset.csail.mit.edu/>).
- Planning 3 CVPR paper submissions on (1) depth prediction with multi-view invariant constraints, (2) efficient instance segmentation dataset creation, and (3) damage assessment of imagery in the latent space.

*Undergraduate Researcher in the Robot Locomotion Group*

Sep 2017 – May 2019

- Created a pipeline for self-supervised instance segmentation and automatic sparse keypoint discovery for robotic manipulation. See the project at <http://sparkey.xyz/> and code at <https://github.com/ethanweber/sparkey>.
- Worked with NASA's humanoid robot, Valkyrie and Atlas for motion planning and fall recovery. Implemented algorithms in and out of simulation. Used Drake (<http://drake.mit.edu/>) and collaborated with Toyota Research Institute.

*Undergraduate Researcher in the Model-Based Embedded and Robotics Systems Group*

Sep 2016 – Jun 2017

- Worked on using a land rover and a quadcopter in cooperation to navigate an area and perform tasks autonomously.

### Dense Reconstruction for Augmented Reality

*Computer Vision Software Engineering Intern at Niantic, Inc.*

Sunnyvale, CA

May 2019 – Aug 2019

- Creating dense reconstruction software for real-time augmented reality applications.

### Art Recommendations with the Microsoft HoloLens

*Deep Learning Intern at Microsoft*

Cambridge, MA

Jan 2019 – Feb 2019

- Wrote an augmented reality application for the Microsoft HoloLens to recommend art with computer vision in The Metropolitan Museum of Art. The open-sourced repo is at <https://github.com/microsoft/HoloLens-Art-Recommendations>.

### Subject Tracking for Autonomous Quadcopters

*Deep Learning Intern at Skydio*

Redwood City, CA

Jun 2018 – Aug 2018

- Created and evaluated convolutional recurrent neural networks for trajectory prediction using images for semantic scene understanding.

### Deep Learning and Computer Vision

*Deep Learning Intern at The Markov Corporation*

Palo Alto, CA

Jan 2018 – Feb 2018

- Worked on deep learning for stereo vision with computer vision algorithms in OpenCV and CNNs in Keras and TensorFlow.

### Autonomous Vehicle Software Development for Volvo Cars

*Summer Intern at Zenuity (Volvo / Autoliv)*

Detroit, MI

Jun 2017 – Aug 2017

- Implemented computer vision algorithms, tests, and created software for autonomous valet parking.

## Projects

*Satellite Imagery Competition*

Sep 2019 – Apr 2020

- Presented at ICLR 2020 [AI for Earth Sciences](#) workshop for prize-winning [submission](#) in the [xView2](#) building damage assessment comp.

*Atenta: Correcting Posture with Webcams*

Mar 2018 - current

- Built application to detect and correct posture with laptop webcams. See blog post [here](#).

*MIT - HackMIT 2017*

Sep 2017

- Won “Best Use of Amadeus APIs” and “Best Travel Hack” for AR travel application.

*University of Michigan—Ann Arbor - MHacks 6*

Sep 2015

- Built project to help the visually impaired through object recognition and vibration feedback. Won “Best Use of Microsoft Technology”.

## LEADERSHIP

---

### TechX

*SpecialX Director*

Cambridge, MA

May 2018 – May 2019

- Organized VC and startup events, tech talks, an AR/VR demo day, and experiment with new ways to improve MIT's campus through tech.
- Started recurring “Conversations” event to connect like-minded students on campus over a free meal.

## SKILLS

---

**Computer:** Python, PyTorch, TensorFlow, Keras, C++, C, Java, JavaScript, HTML, CSS, C#, Linux, Hardware, CAD

**Activities:** TechX, Jump Rope Club Co-founder, Camp Kesem Counselor, AI at MIT, Contracting, CSAIL Research, Zeta Psi Fraternity

---