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Ethan Weber

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EDUCATION

Massachusetts Institute of Technology (MIT) — Cambridge, MA
Candidate for Bachelor of Science in Electrical Engineering and Computer Science • **GPA:** 4.8/5.0 — June 2020

New Holstein High School — New Holstein, WI
• **GPA:** 4.0/4.0 • **Rank:** 1/90 — 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 — Cambridge, MA
Masters Student in the Torralba Lab — Sep 2019 – current
- Published first-author paper to ECCV 2020 on detecting natural disasters in imagery (http://incidentsdataset.csail.mit.edu/).
- Working on three projects (1) depth prediction with multi-view invariant constraints, (2) efficient instance segmentation dataset creation, and (3) damage assessment of imagery using a 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 — Sunnyvale, CA
Computer Vision Software Engineering Intern at Niantic, Inc. — May 2019 – Aug 2019
- Created dense reconstruction software for real-time augmented reality applications.

Art Recommendations with the Microsoft HoloLens — Cambridge, MA
Deep Learning Intern at Microsoft — 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 — Redwood City, CA
Deep Learning Intern at Skydio — 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 — Palo Alto, CA
Deep Learning Intern at The Markov Corporation — 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 — Detroit, MI
Summer Intern at Zenuity (Volvo / Autoliv) — 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 — Cambridge, MA
SpecialX Director — 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, AI at MIT, Contracting, CSAIL Research, Zeta Psi Fraternity, Interact Fellow