Adrian Meza

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Education

Massachusetts Institute of Technology (MIT) **Cambridge, MA**
Bachelor of Engineering in Electrical Engineering & Computer Science *Aug 2016 – June 2020*
Bachelor of Science in Physics *Aug 2016 – June 2020*
Masters of Engineering in Computer Science *Sep 2021 – June 2022*
Relevant Coursework: Performance Engineering, Cognitive Computational Science, Robotics: Science and Systems, Visual Navigation for Autonomous Vehicles, Advances in Computer Vision, Deep Learning Practicum, Matrix Methods in Data Analysis/Data Science, Introduction to Algorithms, Machine Learning, Artificial Intelligence, Embedded Systems
GPA: 4.5/5.0

Experience

Model-Based Embedded and Robotics Systems Group **Cambridge, MA**
Masters Student *Sep 2021 – Present*

- Devising a novel algorithm based on *nonparametric hierarchical learning* to automatically mine discrete concepts such as maneuvers and latent encodings from data
- Using *probabilistic automata* to rapidly generate diverse sets of predictions for multi-agent problem.
- Experimentally validate the use of *hybrid factored inference* algorithms to prune physically implausible trajectories

NASDAQ **Boston, MA**
Full-Stack Engineering Intern *July 2020 – July 2021*

- Wrote a C++ version of an existing Java NASDAQ specific Cache Library
- Developed an app to perform secure Multi-Party Computations on encrypted datasets
- Interfacing Homomorphic Encryption Library (MS SEAL) with Java Backend & PostgreSQL database

INVETT Research Group **Madrid, Spain**
Undergraduate Researcher *May 2019 – July 2019*

- Simulated Fast Marching [Squared] methods, with non-holonomic constraints for efficient path planning on urban roads. Simulations done using Matlab and Numpy.

Unify ID **San Francisco, CA**
Full Stack Engineering Intern *Jan 2019 – Feb 2019*

- Developed Python Flask web app to passively authenticate users upon walking to close to a real ATM. Authentication done using custom CNN/LSTM models trained on a user's walk cycle, and location tracking with Bluetooth Beacons.

MIT Marine Autonomy Bay **Cambridge, MA**
Undergraduate Researcher *Aug 2018 – Jan 2019*

- Trained Google's MobileNet architecture & Mini YOLO using PyTorch, to identify objects' shapes and colors.
- Interface with a Marine Autonomous Vehicle control system to provide navigation commands towards objects.

NASA Jet Propulsion Laboratory **Pasadena, CA**
Applied Electromagnetics Lab Intern *May 2017- Aug 2017*

- Simulated the power collected on an Avalanche Photodiode Sensor (APD) from light coming in at various angles, using Matlab. The goal was to achieve a greater Signal to Noise Ratio.

Space Sciences Division Intern *May 2017- Aug 2017*

- Analyzed novel methods for detecting Exoplanets in Extrasolar systems through modulations in Radio Frequency Emissions using Matlab.
- Used Fourier Analysis to test numerous scenarios that we could see upon observing an Extrasolar system.

Leadership

MIT Physics Department **Cambridge, MA**
Committee Member *Jan 2018 - Present*

- Collaborated with MIT Physics Department to organize a Physics Values Statement. Outlining department's commitment to well-being, respect, inclusion, collaboration, and mentorship among students & faculty.
- TA for 'Classical Mechanics' and 'Electricity & Magnetism.' Tutor for 'Waves and Vibrations.'

City of Children Orphanage Backpack/School Supplies Drive **Ensenada, Mexico**
Founder *Aug 2013 - Present*

- Developed and manage a fundraising drive aimed at purchasing school supplies (backpacks, shoes, school utilities, etc.)

Skills

- Languages: **Python** (Proficient), **C/C++** (Intermediate), **Java** (Intermediate), JavaScript (Intermediate), HTML/CSS(Intermediate), Assembly (basic), RUST (basic)
- Libraries**: PyTorch/TF** (Intermediate), **ROS** (Intermediate), OpenCV (Intemediate), OpenGV (Intermediate), PostgreSQL
- Fluent in Spanish and English (read, write, speak); knowledgeable in Japanese (read, short conversation)