

MOHAMMED N. NASIR

Automation/Self-Driving Vehicle Engineer

@ mnasir@mit.edu mohammednasir.com

EXPERIENCE

Autonomous Driving Intern

[Daimler Trucks](#)

06/2019 - 08/2019 Portland, OR

- Created a Hardware-In-The-Loop test bench for running simulations of the Drive-By-Wire interface, reducing the number of necessary road tests.
- Developed a kinematic model of a tractor-trailer combination vehicle for backend of a Unity-based simulator.
- Gained knowledge of CAN messaging and automotive network architecture.

Innovation Intern (Video)

[Vivint Smart Home](#)

05/2018 - 08/2018 Boston, MA

- Developed megahertz-level high-resolution data acquisition tool for testing internal camera circuitry.
- Built tool from scratch, designing PCB with noise filtration circuits and optimized circuit layout.
- Worked with senior leadership to develop a potentially new business model, informed by this project.

Founder

[Drones For Humanity](#)

06/2014 - 11/2018 Toronto, Canada

- Awarded grants in excess of \$65,000 from MIT and elsewhere.
- Developed a fully autonomous drone capable of carrying fifty pounds of humanitarian aid for over two hours in natural disaster zones and ran pilot test in Indonesia in the summer of 2017.
- Named as a Finalist for the Thiel Fellowship in April 2017.
- Presented technology to President of World Bank at the 2017 Universal Healthcare Conference in Tokyo.

SIDE PROJECTS

Street-Legal Vehicle

11/2017 - Ongoing Cambridge, MA

A vehicle designed and built from scratch, registered as a 3-wheeled motorcycle.

- Fully electric design capable of a top speed of 40mph for a MA 'Limited Use' classification.
- Currently working on self-driving capabilities (Level 2 autonomy).
- For more information, visit [mohammednasir.com](#)

Heavy-Lifting Multicopter

06/2013 - 06/2017 Cambridge, MA

Main drone platform for Drones For Humanity

- A large multicopter capable of lifting a 50 pound payload for up to 45 minutes.
- Designed for delivering aid to remote, inaccessible areas after natural disasters.
- More information at [dfhumanity.com](#)

REFERENCES

References and full CV available upon request.

SKILLS

Python C/C++ Java C#/.NET

ROS PX4 Tensorflow/Keras

Inventor Solidworks Fusion 360

FIND ME ONLINE



GitHub

TheInventorMan

EDUCATION

Autonomous Systems & Aerospace Engineering

[Massachusetts Institute of Technology](#)

08/2016 - 06/2020

- **Key courses taken:**
- Robotics Science and Systems
- Introduction to Algorithms
- Signals & Systems, Feedback Control Systems
- Principles of Automatic Control & Decision-Making

Self-Driving Car Engineering Nanodegree

[Udacity](#)

06/2019 - 09/2019

- **Completed projects in the following topics:**
- Lane Finding & Traffic Sign Classification
- Sensor Fusion with EKFs and UKFs
- Behavior Mirroring & Model Predictive Control
- Markov Models & Particle Filters
- Decision-Making & Trajectory Generation
- Full-Stack Development (Capstone Project)

Deep Learning Specialization

[Coursera](#)

06/2019 - 08/2019

- **Courses taken:**
- Neural Networks and Deep Learning
- Improving Deep Neural Networks
- Structuring ML Projects
- Convolutional Neural Networks
- Sequence Models