

Matthew Strong

(720)-626-4057
mast4878@colorado.edu
github.com/peasant98
linkedin.com/in/matthewhstrong

ENGINEERING EXPERIENCE

Co-Founder and CTO, Boulder CO — *Udana Systems*

February 2018 - Present

Udana Systems is developing fully autonomous drone delivery targeting small to medium retail and food businesses. I lead development on the most intensive engineering tasks and additionally architect our machine learning and embedded systems integration. Our product is still in development.

Undergraduate Research Assistant, Boulder CO — *HIRO Robotics Group*

Sep 2019 - Present

Integrated state of the art inverse kinematics engine with the Franka Panda (a 7 DOF robotic arm) and ROS. Currently developing control software with the Panda for a flexible artificial skin with embedded sensors.

Software Engineer Intern, Redmond WA — *Microsoft*

May 2019 - August 2019

Developed and Deployed Global Search for Dynamics 365 For Talent. Implemented an end-to-end feature with Angular and Typescript (frontend), C# (backend), and XML (entity schema).

EDUCATION

University of Colorado Boulder — Computer Science, BS

August 2017 - Present

4.0 Overall GPA, BOLD Scholar and Sewall Scholar

Relevant Coursework: Advanced Data Science, Intro to Robotics, Algorithms, Data Structures, Operating Systems, Computer Systems, Data Science Team, Big Data, Principles of Programming Languages

Skills

Languages: Python, C++, C#, C, Go, Javascript, Typescript, HTML, CSS, Dart, Bash, SQL, Scala

Frameworks: ROS, Pytorch, Tensorflow, Keras, MAVROS, Django, Vue.js, Angular, Flutter, ASP.Net MVC

Miscellaneous: Linux, Git, Docker, ArduPilot, ArduCopter, OpenCV, Machine Learning, Computer Vision, Airsim

PROJECTS

Udana AI Engine *Udana Systems*

Python, Pytorch, Docker

A comprehensive machine learning suite built with Pytorch for our computer vision needs.

ArduCopter Teleoperations, *Personal Project*

C++, ROS, ArduCopter, MAVROS

Developed a user-controlled system with ROS for ArduCopter. Tested both in simulation (Gazebo/ Microsoft Airsim) and a real drone.

Dronet Pytorch, *Personal Project*

Python, Pytorch

Implemented a convolutional neural network in Pytorch called Dronet ([DroNet: Learning to Fly by Driving](#)) that predicts both steering angle and probability of collision.

Bebop Autonomy Vision, *Group Project*

ROS, Python, Pytorch, TensorRT

An autonomous drone (Bebop) using CNN-based navigation with Dronet and includes optimized object detection, semantic segmentation, and visual odometry (SVO).

NBA Stats Cherry Picker, *Personal Project*

Python, NBA API

Cherry picks players' game stats to make them seem historically great. Developed a multiprocessing method to collect every player's game stats from every game in NBA history.