Matthew Strong

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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

Research assistant at HIRO (Human Interaction and RObotics). Currently developing Franka Robot integration for our own low level controller with control down to inverse kinematics.

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

Skills

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

Frameworks: ROS, 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, Tensorflow, Keras, Docker

A comprehensive machine learning suite built with Tensorflow and Keras for our computer vision needs.

ArduCopter Teleoperations,
Personal Project

C++, ROS, ArduCopter, MAVROS

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

Neural Network,
Personal Project

Python, Numpy

Developed a neural network from scratch in Python. 98% success rate on handwritten digits data.

Bike Buddy, *Group Project*

Django, Flutter, Raspberry Pi/Arduino, Jekyll

An app allowing users to virtually lock their bikes, causing an alarm to sound and a notification if the bike is moved. Included a custom API, Flutter frontend, and embedded system portion where bikes can be equipped with a GPS, Raspberry Pi, and Arduino.

NBA SVR and SVC,
Personal Project

Python, Numpy

Predicts NBA records based on conference and division, and predicts position based on height and weight.