ANTHONY LOWHUR

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vanstorm9.github.io
vanstorm9

Seeking positions focused on machine learning or computer vision research and development

Education

Rutgers University, New Brunswick
Bachelors: Computer Science 2019
Minor: Japanese 2019

Study Abroad: Tsuru University, Japan
Feb-Aug 2017

Skills

LANGUAGES
Python
C
C++
Java
Javascript
SQL
PHP
C#
MATLAB
HTML
CSS
Prolog
ASP Sparc

PLATFORMS + LIBRARIES
OpenCV
Sklearn
Pandas
Tensorflow
Unity3D
Vuforia
Keras
Docker
OpenAI Gym
Amazon Web Services
TensorRT
Jenkins
Pytorch
Node.js
React

HARDWARE
Leap Motion
Microsoft Kinect
Arduino
Raspberry Pi

Work Experience

Booz Allen Hamilton — Laurel, Maryland
Computer Vision / Machine Learning Engineer — Aug. 2019 to Current
- Replaced existing model model for thermal data with an improved detection model on thermal data, raising mean average precision score from 25% to 75%
- Wrote scripts to generate shared object files from packages for Python to C++ interaction. Runtime performance improved by magnitude of 10%
- Implemented a simulator for testing embedded software on a desktop environment.
- Trained a vehicle classifier in Pytorch using VGG16 neural network to recognize make and models on hundreds of classes (160) on imbalanced dataset (improved team's model from 71% to 95%)
- Developed scripts capable of generating statistical reports from results of trained detector model.
- Implemented a CNN multi-object tracker based on Deep Q-Learning from scratch in Pytorch. Iterated on the model through experiments to improve performance.
- Used image-to-image translation GAN to translate images from thermal to visible domain.
- Made an auto-annotation data collection system along with entire pre-processing pipeline for thermal-to-visible GAN generation pipeline

Rutgers University, New Brunswick — New Brunswick, New Jersey
Computer Vision & Machine Learning Research Assistant — Sept. 2015 to May 2018
- Accomplished trash segmentation from beach with histogram backprojection, bag of words, and SVMs for autonomous drone in Python OpenCV and Tensorflow Keras.
- Used convolutional neural networks and segmentation algorithms for object recognition & localization for Amazon Challenge Robot in Python OpenCV and Tensorflow Keras.
- Led a team of senior undergraduate & master graduates students for the development of the autonomous robot.

Prudential Financial — Roseland, New Jersey
Software Engineering — June 2018 to Aug. 2018
- Implemented canny edge detection and morphological transform to be used for whitespace detection for text placement, saving content writers a lot of time in Python OpenCV.
- Implemented a Python article-summarizer-ranking based on word frequency in NTLK, reducing employee time to read documents from minutes to seconds.
- Designed web scraping and headless browser scripts to retrieve texts and images from multiple sources and automatically publish them to digital signage in Python.
- Designed an automated flyway database migration pipeline using Jenkins that monitors and notifies users of build failures, lowering error response time.

Texas Tech University — Lubbock, Texas
AI Research Intern — June 2016 to Aug. 2016
- Built a decentralized multi-agent intelligence that will surround and capture fleeing adversarial agent with team of ally agents.
- Utilized matplotlib and kinematics to design simulator while implementing swarming algorithms.
- Abstract was accepted to the National Conference On Undergraduate Research (NCUR 2017) at the Memphis, Tennessee.
- Created an AI that performs vaccine recommendations using declarative programming.

Lehigh University — Bethlehem, Pennsylvania
Computer Vision & Machine Learning Research Intern — June 2015 to Aug. 2015
- Implemented emotion recognition on a robot using dense optical flow and SVMs. The model was resistant to unique facial features and poor lighting
- Research paper presented and published as 1st author at the 2015 IEEE 12th International Conference (MASS) in Dallas, Texas.

Personal Projects

One shot learning (image recognition) on 10,856 unique Yugioh cards
- Made a CNN classifier to recognize 10,856 class of cards with only one image associated with it.
- Implemented with ResNet50 along with triplet loss along with ORB algorithm for ranking support.

More projects on my website!

Publications

Dense Optical Flow Based Emotion Recognition Classifier October 2015
- 1st author paper publication on 2015
- IEEE 12th International Conference on Mobile Ad Hoc and Sensor Systems in Dallas, Texas
- Anthony Lowhur (Rutgers), Mooi Choo Chuah (Lehigh)