

ADITHYA NARAYAN BADANIDIYOOR

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Nationality: Canadian

EDUCATION :

Ramaiah Institute of Technology, Bangalore, India

August 2016 – Present

Bachelors of Engineering, Information Science

RESEARCH INTERESTS:

Data Science (Feature Engineering), Machine Learning, Deep Learning, Video Analytics, Computer Vision, Healthcare

EXPERIENCE:

Edhitha Unmanned Aerial Systems, Bangalore, India (September 2017 – August 2018):

Software Developer in Computer Vision and Image Processing (August 2018 - August 2018) :

- Used Python and OpenCV libraries to detect and extract ROI from a series of captured images
- Built object detection and classification pipelines to extract objects from captured ROI.
- Redesigned the entire computer vision backend and developed test scripts to gauge the performance of the same.
- Leveraged Machine Learning and Feature engineering for Detection and Classification of Objects in captured ROI.

Domain: Robotics, Computer Vision

Co-Head of Sponsorship and Funding (September 2017 - August 2018):

- Approached companies and start-ups that would have a chance of providing monetary and technical support in the form of components and discounts. Over half of these companies sponsored an excess of 1000 \$.
- Was in charge of the crowdfunding page that built an excess of 1000\$ for our teams budget.
- Built connections between the team and other establishments working with UAV's and their applications.

Ramaiah Institute of Technology, Bangalore, India (February 2019- Present):

Undergraduate Research Assistant (February 2019 - Present):

- Benchmarking the performance of various state of the art object detection algorithms like YOLO, R-CNN and SSD as an Encoder for Video Classification. Making use of Keras to build the object detector and sklearn to compare and contrast the classification results obtained by building SVM, Random Forest and Multi Layer Perceptron models which were trained using similar feature vectors.

Domain: Computer Vision, Video Analytics, Feature Engineering, Machine Learning, Deep Learning

PROJECTS :

Queue Optimization in Patient Centered Radiology using Deep Learning (November 2018- May 2019):

- Using Deep Learning on a Patient's Medical Scans to classify a patient into one of 3 different states (Healthy, Requires Medical Attention, Requires urgent medical attention). Based on the classified state, a Priority is assigned, namely High, Medium and Low respectively. The queue is then viewed in that particular order.
- Used Transfer Learning to train a Deep Convolutional Neural Network to Discriminate between the different types of Scans. Used a Standard Deep CNN to return a Priority given a Scan of a particular type. Obtained a Recall score of 82.5%.
- Regularly coordinated with Subject experts regarding Data Collection and Understanding.
- Visualized the results using Confusion Matrices and ROC-AUC curves.
- Used Keras for Building the Discriminative and Grading Models. Used sklearn and OpenCV to establish ground truths using out of the box feature extractors like HOG, Color Histograms and Hough Moments.

Domain: Healthcare, Deep Learning, Feature Engineering, Transfer Learning, Computer Vision

Spam Classification on Twitter using Social Graph analysis (December 2018 - January 2019):

- Calculated Indegree and Outdegree values for nodes in a given social graph, that were then used to calculate the "reputation" of that particular node. Nodes in the given graph were likened to users of the twitter platform, and indegree and outdegree values corresponded to the number of followers and the number of people following.
- Used the BOW model to appropriately structure tweets obtained from each node into a feature vector.
- Built a spam classifier using the above 2 features. The classifier was built using a Naive Bayes classifier.

Domain: NLP, Social Graphs, Data Science, Feature Engineering

