Amogh Dabholkar

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Amogh - Website · Amogh Dabholkar

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY
MS in Electrical and Computer Engineering
2021-present | Atlanta, GA
GPA : 4.0

BITS-PILANI, GOA CAMPUS
B.E. in Electronics and Instrumentation
2016-2020 | Goa, India
CGPA : 8.18 / 10
GRE : 329 / 340 TOEFL : 117 / 120

SPECIALIZED COURSES

GEORGIA TECH
Deep Learning
Statistical ML
Big Data Systems & Analytics

CMU SUMMER TERM 2020
Intro to ML
Image & Video Processing

BITS PILANI
Neural Networks
Software for Embedded Systems

SKILLS

PROGRAMMING LANGUAGES
• Python • C • C++

TOOLS AND TECHNOLOGIES
• PyTorch • TensorFlow • Keras • Pandas
• Numpy • MATLAB • ROS • GitHub

CERTIFICATIONS
• Control of Mobile Robots - Georgia Tech.
• Machine Learning - Stanford.
• Deep Learning Specialization - deeplearning.ai.

PUBLICATION
• M. Srinivasan, A. Dabholkar, S. Coogan, P. Vela, "Synthesis of Control Barrier Functions Using a Supervised Machine Learning Approach",
2020 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)
IEEE Xplore Link

POSITIONS
• Chief Coordinator, Electronics and Robotics Club, BITS Goa.

EXPERIENCE

DEEPEDGE
Deep Learning Engineer
Supervisor: Sampath Kethineedi, Team Lead | November 20 - May 21
• Trained a Mask RCNN model on Tensorflow2 for unconventional object classes with necessary preprocessing and refinement of predicted masks using OpenCV.
• Set up a model assisted annotation pipeline on CVAT to accelerate manual annotation and iteratively improve the model.

DREAMVU INC.
Computer Vision Research Fellow
Supervisor: Dr. Parikshit Sakurikar, Imaging Head | August 20 - November 20
• Worked on calibration of PAL - world's first 360 stereo and depth sensor.
• Deployed EfficientDet for custom object detection on panoramas captured by PAL.

VIDYAROHA INNOVATIONS PVT LTD
Machine Learning Intern
Supervisor: Sai Kiran Reddy, Founder & Director | June 20 - August 20
• Built an end-to-end Facial Recognition Pipeline using the PyTorch on DLAMI.
• Achieved a f1 score of 47.3 on a small dataset with picture quality on the lower end.

IVA LAB - IRIM, GEORGIA INSTITUTE OF TECHNOLOGY, USA
Research Intern
Supervisor: Prof. Patricio Vela, Associate Professor | August 19 - December 19
• Developed a supervised machine learning based approach to automated synthesis of control barrier functions from sensor measurements of the robot.
• Experimental simulations using the proposed framework were conducted on an omni directional robot in a ROS-based simulator using synthetic LiDAR data.

LVPEI - CENTRE OF INNOVATION, HYDERABAD, INDIA
Research Intern
Supervisor : Raghu Gullapalli, Executive Director of Emerging Technologies and Business Development | May 18 - July 18

• Improved battery system so that it could be charged and used at the same time and to display the remaining battery. Designed the main PCB using AutoCAD Eagle.

PROJECTS

STUDY OF ADVERSARIAL ATTACKS ON IMAGE CLASSIFIERS
CS7643 Course Project | October 21 - December 21

• Analyzed the effects of popular adversarial attacks on DNNs
• Used Grad-CAM to visualize where the neurons in the pre-final layer looked at for adversarial examples .

DEEP ENSEMBLE MODEL FOR RETINAL DISEASES DETECTION AND CLASSIFICATION
ECE6254 Course Project | October 21 - December 21

• Implemented an ensemble model of DNNs like DenseNets, Resnets, InceptionNets & EfficientNets for retinal fundus images. Achieved 0.99 AUROC & mAP.

PROTECTING PRIVACY AGAINST UNAUTHORIZED FACIAL RECOGNITION SOFTWARE
CS6220 Course Project | October 21 - December 21

• Implemented FAWKES which adversarially cloaks images to protect against facial recognition models.
• Implemented and trained the FaceNet and MobileNetV3 models on cloaked images from the VGGFace2 dataset.