Amogh Dabholkar

Amogh - Website adabholkar6@gatech.edu 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
Graphical Models for 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 - 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

HPARCH LAB, GEORGIA INSTITUTE OF TECHNOLOGY
Student Researcher
Supervisor : Andrei Bersatti and Dr. Hyesoon Kim | Jan 22 - now
• Working on compression of Deep Learning Recommendation Model (DLRM) using quantization techniques.

SCHOOL OF IC, GEORGIA INSTITUTE OF TECHNOLOGY
Graduate Teaching Assistant
Supervisor : Zsolt Kira | Jan 22 - now
• CS7643 - Deep Learning. Duties include designing coding and theory assignments, handling Piazza for 250+ students, conducting Office Hours, and grading homeworks.

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
Research Intern
Supervisor: Prof. Patricio Vela, Associate Professor | August 19 - December 19
• Developed an ML approach to automate synthesis of control barrier functions.
• Simulations were conducted on a robot in a ROS-based simulator using LiDAR data.

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 for pre-final layer's activation function visualizations.

DEEP ENSEMBLE MODEL FOR RETINAL DISEASES DETECTION
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.

PROTECTION AGAINST FACIAL RECOGNITION SOFTWARE
CS6220 Course Project | October 21 - December 21
• Implemented FAWKES which adversarially cloaks images to protect against unauthorized facial recognition models. Trained the FaceNet and MobileNetV3 models on cloaked images from the VGGFace2 dataset.