Amogh Dabholkar

 Amogh - Website   adabholkar6@gatech.edu   ☎ (404)820-3244   in Amogh Dabholkar

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY
MS in Electrical and Computer Engineering
August 2021 - May 2023 | Atlanta, GA
GPA : 4.0

BITS-PILANI, GOA CAMPUS
B.E. in Electronics
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++

MACHINE LEARNING TOOLS
• PyTorch • TensorFlow • Keras • Pandas
• Numpy • MATLAB • Docker • GitHub

DATA SCIENCE TOOLS
• SQL • Amazon SageMaker • Power BI

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

EXPERIENCE

AMBARELLA
Deep Learning Intern
Supervisor: Sandeep Mohan | May 22 - August 22
• Improved the Neural Network Compression toolkit by implementing RigL and adapting the implementation to work for TF2-Keras.
• Conducted detailed training and fine-tuning experiments in a Docker container to recover accuracy while significantly boosting performance numbers.
• Added key features to the algorithm which aided the accuracy recovery process after pruning.

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.

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

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

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 a soft-margin SVM 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.

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.