Prachi Garg

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Education

Delhi Technological University, Delhi, India *2016 – 2020*
B.Tech in Computer Science and Engineering | **GPA: 8.77/10**
Coursework: Machine learning, Artificial Intelligence, Pattern recognition, Digital Image Processing, Distributed Systems, Intellectual Property Rights, Swarm and Evolutionary Computing, Discrete Mathematics, Data Mining

Delhi Public School, R. K. Puram, Delhi, India *2014 – 2016*
All India Senior School Certificate Examination (AISSCE) | **Percentage: 96.2%**

Hopetown Girls' School, Dehradun, India *2011 – 2014*
Indian Certificate of Secondary Education (ICSE) | **Percentage: 96.2%**

Research Experience

Research Fellow, Centre for Visual Information Technology, IIIT Hyderabad *Aug 2020 – Present*
Prof. C. V. Jawahar, Prof. Vineeth N Balasubramanian, Prof. Chetan Arora, Dr. Anbumani Subramanian
Vision for Mobility and Safety in Autonomous Driving
Working towards solving autonomous driving problems for Indian roads with a focus on "Incremental, life-long learning for semantic segmentation in autonomous driving".

Research Intern, IBM Research, New Delhi *Jun 2020 – Sep 2020*
Dr. Sameep Mehta, Nishtha Madaan
CoVID, Children and Cinema: An AI system to make OTT content family friendly **[*Blog-post*]**
Developed a personalised AI system for objectionable content detection and filtering in movies, web series and other OTT content. Detection of violence, profanity, abuse, nudity and sexual content in videos and their elimination with the goal of making content family friendly.

Research Intern, GREYC laboratory, UNICAEN, ENSICAEN, CNRS, France *Jun 2019 – Aug 2019*
Prof. Frédéric Jurie, Prof. Alexis Lechervy
Memorisation and Generalisation in Deep CNNs Using Soft Gating Mechanisms **[*Report*]** **[*Code*]**
Designed and developed a dynamic conditional computation architecture in Pytorch that handles in-distribution and out-of-distribution data samples differently resulting in improved generalisation performance for deep CNNs.

Research Assistant, IIIT Delhi *Sep 2018 – Feb 2019*
Prof. Saket Anand
Domain Adaptation for Visual Wildlife Monitoring
Benchmarking species detection in camera trap images from unconstrained wild environments to generalise to new environments using state of the art object detection architectures in Pytorch and Caffe2.

Publications

Multi-Domain Incremental Learning for Semantic Segmentation
Prachi Garg, Rohit Saluja, Vineeth Balasubramanian, Chetan Arora, Anbumani Subramanian, C. V. Jawahar
Under Review at IEEE Winter Conference on Applications of Computer Vision (WACV) 2022

Selected Research Projects

Bachelor's Thesis Project, DTU *Sep 2019 – May 2020*
Prof. Rajni Jindal
ML-GAT: Multi-Label Node Classification Using Enhanced Graph Attention Network
We developed an inductive semi-supervised Graph Attention Network for Multi-Label node classification by incorporating inter-label and node-label correlations to learn a model with richer feature representations.

Undergraduate Researcher, Robotics and Machine Intelligence Laboratory, DTU *Mar 2018 – Aug 2018*
Prof. Rajesh Rohilla

Real-time object recognition system for autonomous vehicles

Used the YOLO architecture and ZED stereo camera on Nvidia's Jetson TX1 module to develop a system that provides real-time information about the identity of objects and their distance from the car using audio.

Avionics Technician, Team Unmanned Aerial Systems (UAS-DTU) *Sep 2016 – Jun 2017*

- **AUVSI-SUAS Competition, Maryland, USA, 2017.** Developed a customized Ardupilot firmware algorithm to capture the off-axis target using 2-axis gimbal stabilization
- **Technoxian Quadcopter Challenge, World Robotics Championship, 2017.** Designed the propulsion system for an indigenous light-weight quadcopter system as the avionics lead in the project
- **UAV Flytron Competition, PEC, 2017.** Used Pixhawk, Ardupilot flight controllers and Mission Planner for integration and testing of autonomous flights of UAVs

Volunteering & Social Outreach

Science facilitator at Prayogshala (Teach For India), New Delhi *Aug 2016 – Nov 2016*

- Delivered customised lesson plans and conducted experimentation sessions in Science in under privileged classrooms
- Helped developing course material as part of the core curriculum development team

Achievements

- Second runner up at Flytron 2017, a national level UAV competition organized by PEC (Chandigarh) and DRDO
- Secured All India Rank 2849 in JEE Mains 2016, national level engineering entrance examination, among 1.2 million candidates
- Secured school Rank 1 in ICSE class 10th board examination

Technical Skills & Courses

Programming: Python, C++, C, Octave
Libraries: Pytorch, Scikit-Learn, Keras, Tensorflow, OpenCV

Extracurricular Activities

Sub-Reviewer, BMVC 2021
Attended IIIT-H Summer School on AI, 2021
Member, Enactus DTU - Project Unmoolan *Aug 2016 – Mar 2017*
Model United Nations

- Participated in 6 Model United Nations conferences
- Member, Deltech MUN and Debating Society
- Organizing Committee, DELTECH MUN 2018