



K Naveen Kumar

PhD Research Scholar, IIT Hyderabad

I am a first-year PhD student in Computer Science and Engineering at the Indian Institute of Technology, Hyderabad (IITH). Earlier, I was joined as MTech (Research Assistant) in the Visual Learning and Intelligence Lab (VIGIL) at IITH in Jan 2019 and worked under the project "Smart Cities for Emerging Countries Based on Sensing, Network, and Big Data Analysis of Multimodal Regional Transport System (M2Smart)". I am working in the research area - Scene perception and path planning in autonomous vehicle technology along with Deep learning in Medical and Health Science, Video Surveillance, Smart Human Mobility. I aspire to excel in academic research and also to become an entrepreneur. I am a Realistic portrait artist.

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Links

Portfolio
Linkedin
Github
Research Gate
Google Scholar
Sketch-IFY
FacebookPage

Programming Skills

Python, C, Java
Hardware-
Programming
Matlab
HTML CSS
Latex
Android-
Development
PHP

Coursework

Reinforcement
Learning
Computer Vision
Deep Learning
Pattern Recognition
Machine Learning
Computer Organisation
Embedded Systems
Design of Algorithms
Data Structures

Experience

- 05/19 - 7/19 **Intern** IIT Hyderabad
Worked on real-world problem called Human blood cell detection, classification, counting from microscopic images using Deep learning.
- 07/18 - 12/18 **Project Intern** IIT Hyderabad
Developed a UI for a project called real time two-wheeler helmet detection using Java.
- 01/18 - 06/18 **Internship as Innovator** TCS-Digital Impact Square
Worked as a data analyst on a developed digitized solution for a social challenge called improving road safety through design thinking, innovation.

Research

- 05/17 - 07/17 **Research internship on Resource management using weighted fair-share queuing in heterogeneous cloud computing system** IIT Vadodara
Mentor: Dr. Reshmi Mitra (previously - Asst Prof IIIT Vadodara, now - Assistant Professor Webster University, St. Louis USA)

Education

- 2020(Jan) - Now **PhD Research Scholar - Computer Science & Engineering** IIT Hyderabad
CPI : -
- 2019(Jan) - 2019(Dec) **M.Tech(RA) - Computer Science & Engineering** IIT Hyderabad
CPI : 8.65/10
- 2014 - 2018 **B.Tech - Computer Science & Engineering** IIT Vadodara
CPI : 8.97/10
- 2012 - 2014 **Twelfth - MPC** Sri Chaitanya Junior College, Hyderabad
97.7%
- 2011 - 2012 **SSC** New Nalanda High School, Tandur
GPA : 9.8/10

Projects

- 01/19 - Till date **IITH Smart Parking System** IIT Hyderabad - M2Smart(JICA & JST)
Developed a smart solution for IIT parking system and is under deployment

Personal Skills

Mentoring
Initiativeness
Teamplayer
Leadership
Team Management

OS Preference

GNU/Linux
Mac OS
Windows

Certification Links

Best Paper Award
Sakura RU Japan
Nvidia AI- Hackathon
Internship:TCS-DISQ
Second prize-ML
NN & DL
JS, JQery, JSON
DB Apps. in PHP
Web Apps. in PHP
Android App Devel.
CS with Android
Intro. to IOT
Intro. to SQL
FAEA Workshop

Other Info

Art Club Secretary
NCC Senior Cadet
Realistic Artist
Commission based
business:Sketch-IFY

08/19 - 09/19	Priority based audio alert system for visually impaired using pixel segmented data Developed a Deep learning based software solution for visually impaired in the finals of Nvidia AI Hackathon 2019	Nvidia AI Hackathon 2019
08/19 - Till date	Collision warning in autonomous vehicles using 3D spatial information Working on novel approach for collision warning in autonomous vehicles using 360 degree camera data	IIT Hyderabad
01/17 - 05/17	Orientation and distance calculation of helmetless motorcycle using 3D spatial information Developed a solution to detect incoming and outgoing helmetless motorcyces along with distance from camera	IIT Hyderabad
01/19 - Till date	Traffic segmentation, Vehicle detection Currently working on a colloborative project of IITH, JICA & JST	IIT Hyderabad - M2Smart(JICA & JST)
05/19 - 07/19	Human blood cell detection, classification, counting Worked on real-data comprising of 28 blood cell subclasses and developed an AI solution to generate final blood report	IIT Hyderabad
01/17 - 05/17	Web Development projects Developed websites of Assistant Prof. Digvijay S. Pawar, Prof. C Krishna Mohan, IIT Hyderabad Prof. DSPawar link , Prof.CKM link	IIT Hyderabad
05/16 - 12/17	IOT Projects A 3D(6x6x6) LED display controlled by arduino micro controller youtube.com/watch?v=cHeYvsKsbz8	IIIT Vadodara

Publications

1. Debaditya Roy, K Naveen Kumar, C. Krishna Mohan, "Defining Traffic States using Spatio-Temporal Traffic Graphs", **accepted** in **IEEE Intelligent Transport Systems Conference (ITSC), 2020**
2. K Naveen Kumar, Mitra R., "Policy-based Heterogeneous Resource Backend Manager for Dynamic Cloud Workloads", **submitted** to **Performance Evaluation (Elsevier), May 2020**
3. K Naveen Kumar, Mitra R., "Resource Allocation for Heterogeneous Cloud Computing Using Weighted Fair-Share Queues", in Proc. **IEEE International Conference on Cloud Computing in Emerging Markets (CCEM)**, pp. 31-38, 2018 [\[paper link\]](#)

Awards & Achievements

2019	Stood as top 10 finalist in Nvidia AI Hackathon	Nvidia AI Hackathon
2019	Selected in IITH-RU Project Based learning program	IITH-RU Japan
2019	Stood 2nd in Hackathon Won second prize in Kaggle Machine Learning competition conducted as a part of Science & Technology Week at IIT Hyderabad (2018-19) .	IIT Hyderabad
2018	Best Research Paper Award Research paper got accepted in IEEE CCEM 2018 out of 50 submissions . Won best paper award and a prize money 20k INR out of 8 other papers .	IEEE CCEM 2018