N DINESH REDDY

PERSONAL DATA

Current Address:	Smith Hall 203, Robotics Institute, 5000 Forbes Avenue, Pittsburgh PA 15213-3890
Permanent Address:	Plot No: 44, Lane no:1,Patel Enclave,Yapral,Hyderabad, Telangana,India-500087
Permanent Email:	dinesh.andromeda@gmail.com
Current Email:	dnarapur@andrew.cmu.edu
Current Phone:	+14127081492
Permanent Phone:	+919505233231
DOB:	06/09/1991 (dd/mm/yyyy)
Website:	[Personal] [Official]
GitHub:	https://github.com/dineshreddy91

EDUCATION

Current Master of science in robotics, **CMU RI, USA**
Thesis: "Muti-camera dynamic scene understanding and reconstruction"
GPA: 4.33/4.33 Advisor: Prof. Srinivasa Narasimhan

August 2013 Bachelor of Engineering (hons) in EEE,**BITS - PILANI**
Thesis: "Low cost blood sugar sensor for rural poupulation"
Advisor: Prof. SUMAN KAPUR

RESEARCH EXPERIENCE

Current Graduate Research Assistant,**ILIM Lab, CMU, USA**
Project: Analyzing multi-camera based reconstruction methods for intersection analysis. Consequently creating a virtual time machine to browse through events
Advisor: Prof. Srinivasa Narasimhan

Dec 2016 PHD Intern, **Max Planck institute, Germany**
Project: Learning reconstruction using deep neural networks. leveraging advances in neural networks for accurate large scale reconstructions
Advisor: Dr. Andreas Geiger

March 2016 Graduate Research Assistant,**RRC, IIIT hyderabad, INDIA**
Project: Exploiting Semantic Information for Accurate Segmentation, Localization in Dynamic Environments. Helping in autonomous navigation of challenging environments
Advisor: Prof. K MADHAVA KRISHNA

December 2013 Undergraduate Research Assistant,**Biology lab, BITS-Pilani, INDIA**
Project: Creating low cost medical products for indian rural population.Worked on 2 rupee(5 cent) diabetic sensor currently being mass produced for rural population
Advisor: Prof. SUMAN KAPUR

PEER-REVIEWED PUBLICATIONS

N Dinesh Reddy, George Tan. **LSD-Net: Look, Step and Detect for Joint Navigation and Multi-View Recognition with Deep Reinforcement Learning** *Neural Information Processing Systems Conference(NIPS), 2017.(under review)*

N Dinesh Reddy,Iman Abbasnejad, Sheetal Reddy, Amit K Mondal and Vindhya Devalla. **Incremental Real-time Multibody VSLAM with Trajectory Optimization Using Stereo Camera.** *International*

Conference on Intelligent Robots and Systems(IROS), 2016.

N Dinesh Reddy*, Falak Chayya*, Sarthak Upadhyay, Visesh Chari, Zeeshan Zia and K Madhava Krishna. **Monocular Reconstruction of vehicles : Combining SLAM with Shape Priors**. *IEEE International Conference on Robotics and Automation(ICRA), 2016.*[Project Page]

N Dinesh Reddy, Prateek, Visesh Chari and Madhava Krishna. **Dynamic Body VSLAM with Semantic Constraints.** *International Conference on Intelligent Robots and Systems(IROS), 2015.* [Project Page]

Nazrul Athar, **N Dinesh Reddy**, K Madhava Krishna **Monocular Semantic Motion Segmentation using Dilated Convolutions** *International Conference on Computer Vision Theory and Applications (VISAPP), 2017.*[Project Page] **(ORAL)**

N Dinesh Reddy, Prateek Singhal and K Madhava Krishna. **Semantic Motion Segmentation Using Dense CRF Formulation.** *Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP), 2014.* **(ORAL)** (10% acceptance rate) [Project Page]

Prateek Singhal, Aditya Deshpande, Harit Pandya, **N Dinesh Reddy** and K Madhava Krishna. **Top Down Approach to Detect Multiple Planes from Pair of Images.** *Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP), 2014.* **(ORAL)** (10% acceptance rate)

Sheetal Reddy,**N Dinesh Reddy**, K madhava krishna. **Label Space Context Network For Small Object Detection** *European Conference on Mobile Robotics(ECMR), 2017.(under review)*

Nazrul Athar, **N Dinesh Reddy**, K madhava krishna. **Dynamic video semantic segmentation using Spatio temporal optimization** *International Conference on Intelligent Robots and Systems(IROS), 2017.(under review)*

SELECTED PROJECTS

Driverless Car Challenge for Mahindra rise prize
Under the supervision of Dr K MADHAVA KRISHNA and Dr.Shanti swarup medasani
We are developing a complete autonomous vehicle suitable for navigation in indian road conditions. The car perception system is developed using the low cast stereo sensors. I have played in integral role in implementing real time SLAM, GPS localization, Object and Road detection algorithms for automating the vehicle. All my publications are associated with the following work. [Video Page]

Facial Expression Detection on wild images using Active shape model
Under the supervision of Dr. Shailesh Kumar, Google INC
Facial expressions convey non-verbal cues, which play an important role interpersonal relations. To increase the accuracy of facial expression detection , we have combined the active shape model with the gabor filter for better prediction.
Localize of bullet on a target using ultrasonic sensors (LOBOT)
Under the supervision of Major R.K. Panda, SDD, Indian Army
The aim of the project was to localize of bullet on a target (LOBOT) up to an accuracy of 0.5 mm. It involves the detection of the bullet using ultrasonic sensor and localization using mathematical model. This consisted using of outdoor sensors and precision sensors which were difficult to calibrate and was challenging as slight noise can cause a substantial variation in the output.

MINI-PROJECTS

- A Low Cost Mini-Weather Station Texas Instruments MCU design contest.Link
- Developed the product for detecting the amount of glucose in a blood sample for 2 rupee (3.3 cents).
- Developed the product for testing the antibiotic is resistant or sensitive for urinary tract infection.
- Interned at Bhilai Steel plant and worked on AC to DC conversion of power for electrical engines.
- A Quadrotor Platform For Mines detection for Indian Army.
- Line follower bot following a strip of black line with PID integration.

COMPUTER SKILLS

Programming: C/C++, CUDA, Python, MATLAB, JAVA, PL-SQL, VERILOG
Libraries: TensorFlow,Torch, OpenCV, ROS, Torch, PCL,VLFEAT,ARDUINO.
Software packages: Xilinx, PSpice, MATLAB, Arduino IDE ECLIPSE, SQL DEVELOPER, AUTOCAD.

COURSEWORK

MACHINE LEARNING	MOBILE ROBOTICS	ARTIFICIAL NEURAL NETWORKS
INTRO TO ROBOTICS	COMPUTER VISION	OPTIMIZATION METHODS

HONOURS AND AWARDS

- Invited talk at perceiving systems group, Max planck Institute,Tubingen on 02-10-2015
- Microsoft Research Travel grant to attend IROS 2015.
- IROS student scholarship to attend IROS 2015.
- Undergraduate merit scholarship- 2011,2012,2013
- Head of the technical team of the technical-cultural fest of BITS Hyderabad, Pearl 2012.
- Finalist of the TI MCU Design Contest 2012 INDIA

EXTRA-CURRICULAR ACTIVITIES

- Batmintom team member and president at BITS and CMU.
- Active member of the IEEE student chapter and organized the IEEE Annual Conference, INDICON 2011.
- Nucleus member of the National Social Service (NSS)
- Have attended numerous Technical fests of different colleges, Technozion 2011 of NIT Warangal, Quark 2012 of BITS Goa and Magistech 2011 of MGIT Hyderabad .
- Organizing member of the cultural fest of our college, pearl 2010 and pearl 2011.
- Represented the college in the cultural fest of BITS-Pilani, Oasis 2010.

REFERENCES

Srinivasa Narasimhan, Professor, CMU, USA
Andreas geiger, Max Planck Group Leader and visiting professor, ETH Zurich.
K madhava Krishna,Associate professor,IIIT-HYDERABAD.
Visesh Chari, Research scientist, Amazon Lab126
Suman Kapur, Dean of international affairs, BITS-HYDERABAD