Hemanth KORRAPATI, PhD

Pruimenstraat 8D, 1033KM Amsterdam, Netherlands.
hemanthkorrapati@gmail.com | +31 (0) 629398918 | Nationality: Indian

Research & Development ♦ Computer Vision ♦ Mobile Robotics ♦ Machine Learning

Education

- ➔ [2009 - 2013] PhD in Electronics and Systems (with highest honor) @ Université Blaise Pascal, France
- ➔ [2004 - 2009] MS by Research + Bachelors in Computer Science (CGPA: 7.89/10) @ IIIT - Hyderabad, India

Experience

Industrial R & D.

- ➔ **[July 2015 - present]** ***R&D Engineer*** at Blippar, Amsterdam, Netherlands.
  Working on cutting edge techniques for augmented reality and computer vision applications.Cannot say more :(

- ➔ **[July 2013 - May 2014]** ***Lead Engineer*** at Samsung Research Institute, Noida, India.
  Worked on: Android Platform, Image registration, social sharing of image libraries, City-scale geospatial data engineering, geospatial relocation and recreation recommendation system.

Academic R & D.

- ➔ **[June 2014 - May 2015]** ***Research Associate/Post-Doctoral Fellow*** at IMoBS^3, Institut Pascal, France.
  Worked on: 3D reconstruction, omnidirectional vision systems, object detection & recognition from point clouds, kinect data, SHADOW robotic arm, and fusing color, depth and tactile sensor readings.

- ➔ **[Nov 2009 - June 2013]** ***Research Engineer/PhD student.*** Supervisor: Prof. Youcef Mezouar
  Worked on: Omnidirectional Vision, Topological map building algorithms, Image sequence partitioning techniques, Visual memory based robot navigation for dynamic environments.
  Achievements: Best loop closure recall rates tough datasets, real-time loop closure performance, Construction of a dataset with a wide range sensor classes including cameras, laser range finders, GPSs, and IMU.

- ➔ **[2007 - 2009]** ***Research Assistant*** at IIIT-Hyderabad, India. Supervisor: Prof. Madhava Krishna
  Worked on: outdoor terrain map building, 3D point cloud from laser range data, Fusion of GPS and Inertial data with kalman filter, path planning, detecting ground planes using RANSAC. a novel range based global localization algorithm, and an efficient active localization algorithm for low-cost robots.

Technical Skills

Programming:	C/C++, Python (Numpy, Scipy, Panda, Pyglet), UNIX shell scripting, MATLAB.
Libraries:	Boost, ROS, OpenCV, Gazebo, Yael, PCL, liblinear, libsvm, scipy
Robot Platforms:	Amigo Bot, Pioneer(P3DX), Pioneer(P3AT), CMU's max, VIPALAB, SHADOW.
Sensors:	Sonar, Laser range Finders, low-cost GPS, Differential GPS, RTK GPS, IMU, Biotac.
Cameras:	Projective, Fisheye, Omnidirectional lenses, Stereo camera, Kinect.

Honours & Miscellaneous Experience

Awards:

- ➔ Best Oral Paper Award at IAS-12, Jeju Island, Korea.

- ➔ Recipient of Pratibha Award from the Government of Andhra Pradesh in 2004.

Teaching & Supervision:

- ➔ Teaching assistant for Data Structures and Algorithms course in 2009 at IIIT-H.
- ➔ Shortly going to supervise and teach a group of three students.

Reviewer: ICRA-2008, IROS-2008, ICRA-2012, ICRA-2015, IROS-2015 (conferences).

Languages: English (Bilingual), French (Limited Proficiency), Hindi (Bilingual), Telugu (Mother Tongue)

Publications

- ➔ **Korrapati, H**., Mezouar, Y., *Multi-Resolution Map Building and Loop Closure with Omnidirectional Images*, Springer: **Autonomous Robots**, (Decision pending).
- ➔ Uzer, F. , **Korrapati, H**. , Royer, E. , Mezouar, Y. and Lee, S. *Vision Based Hybrid Map Building for Mobile Robot Navigation,* In 13th International Conference on Intelligent Autonomous Systems **(IAS), 2014,** Italy.
- ➔ **Hemanth Korrapati**, Youcef Mezouar, *Vision based Sparse Topological Mapping*, Elsevier: **Robotics and Autonomous Systems, 2014.**
- ➔ **Hemanth Korrapati**, Ferit Uzer, Youcef Mezouar, *Hierarchical Visual Mapping with Omnidirectional Images*, IEEE/RSJ International Conference on Intelligent Robots and Systems **(IROS), 2013**, Tokyo, Japan.
- ➔ **Hemanth Korrapati,** Jonathan Courbon, Youcef Mezouar, Philippe Martinet, *Image Sequence Partitioning for Outdoor Mapping*, International Conference on Robotics and Automation **(ICRA),2012**, St.Paul, MN, USA.
- ➔ **Hemanth Korrapati**, Jonathan Courbon, Youcef Mezouar, *Topological Mapping with Image Sequence Partitioning*, In 12th International Conference on Intelligent Autonomous System **(IAS-12), 2012**, Jeju Island, Korea. Winner of the Best Oral Paper award.
- ➔ **Hemanth Korrapati**, Youcef Mezouar, Philippe Martinet, *Efficient Topological Mapping with Image Sequence Partitioning*, European Conference on Mobile Robotics **(ECMR), 2011.**
- ➔ **H. Korrapati,** J. Courbon, S. Alizon, F. Marmoiton, *The Institut Pascal Data Sets : un jeu de données en extérieur, multicapteurs et datées avec réalité terrain, données d'étalonnage et outils logiciels*, **ORASIS 2013**.
- ➔ **Hemanth Korrapati,** Jonathan Courbon, Youcef Mezouar, *Topological Mapping with Image Sequence Partitioning*, Book Chapter in Frontiers of Intelligent Autonomous Systems, Springer series: Studies in Computational Intelligence,Vol. 466
- ➔ J. Courbon, **H. Korrapati,** Y. Mezouar, *Adaptive Visual Memory For Mobile Robot Navigation In Dynamic Environment*, In IEEE Intelligent Vehicles Symposium **(IV'12), 2012**, Alcala de Henares, Spain.
- ➔ J. Courbon, **H. Korrapati**, Y. Mezouar, *Visual Memory Update For Life-Long Robot Navigation,* In 12th International Conference on Intelligent Autonomous System **(IAS-12), 2012**, Jeju Island, Korea.
- ➔ Yasovardhan Reddy E, **Hemanth Korrapati**, K Madhava Krishna, *Estimating Ground and Other Planes from a Single Tilted Laser Range Finder for On-Road Driving,* International Conference on Advanced Robotics **(ICAR), 2009**, Germany.
- ➔ **Hemanth Korrapati** and K Madhava Krishna, *Global Localization of Mobile Robots by Reverse Projection of Sensor Readings,* IEEE International Conference on Robotics and Biomimetics **(ROBIO), 2008**.
- ➔ **K. Hemanth**, S. Subhash, K. M. Krishna and A. K. Pandey, *Localizing from multi-hypotheses states minimizing expected path lengths for mobile robots*, Advances in Mobile Robotics, Climbing and Walking Robot **(CLAWAR), 2008**.