

Kumar Shaurya Shankar

- CONTACT INFORMATION** *Mobile:* +1-412-320-6822 *E-mail:* kumarsha@cs.cmu.edu *Website:* kshaurya.in
- RESEARCH INTERESTS** **Field Robotics, Computer Vision, Robot Learning, Multi Agent Robotics**
- EDUCATION**
- Robotics Institute, Carnegie Mellon University, Pittsburgh, USA**
PhD, Robotics **August 2014 to Present**
- Robotics Institute, Carnegie Mellon University, Pittsburgh, USA**
M.S., Robotics **January 2013 to May 2014**
CGPA 3.9
- Delhi College of Engineering, University of Delhi, New Delhi, India**
B.E., Mechanical Engineering **August 2008 to June 2012**
First Class with Distinction, Average grade 75.01%
- RESEARCH EXPERIENCE**
- Robotics Institute, Carnegie Mellon University, Pittsburgh, PA**
Research Associate I; Graduate RA **June 2012 to May 2014**
BIRD-MURI Built, developed and integrated systems to get Micro Aerial Vehicles to autonomously avoid trees in densely cluttered environments using only monocular vision via imitation learning and locally deliberate approaches.
- Hi Tech Robotics Systemz, Gurgaon, India**
Research Intern **January 2012 to March 2012**
Worked on creating a 3D photo realistic environment for teleoperating mobile vehicles by fusing imagery and 3D laser rangefinder data.
- Robotics Institute, Carnegie Mellon University, Pittsburgh, PA**
Robotics Institute Summer Scholar **June 2011 to August 2011**
CMU-CRW Developed the communication backbone and high level control planning for a large number of inexpensive boats for providing situational awareness for flood relief and environmental sampling.
- Delhi Technological University-Unmanned Aerial Systems, New Delhi, India**
Head Developer, Image Processing **October 2010 to May 2012**
Performed character and shape recognition from aerial imagery in natural scenes for the AUVSI Student UAS Competition. Collaborated with Lockheed Martin Aeronautics to develop a next generation urban UAS.
- TIFAC CORE Optics Chapter, New Delhi, India**
Summer Research Intern **June 2009 to July 2009**
Studied word transmission and coding techniques, DWDM and fiber break detection.
- PUBLICATIONS**
- [1] Robust Direct Visual Odometry using Mutual Information.
K.S. Shankar and N. Michael. *SSRR 2016*
Won Best Student Paper
 - [2] Vision and Learning for Deliberative Monocular Cluttered Flight.
Dey, **K.S. Shankar**, S. Zeng, R. Mehta, T. Agcayazi, C. Eriksen, S. Daftry, M. Hebert, and J.A. Bagnell. *FSR 2015*
 - [3] Learning Monocular Reactive UAV Control in Cluttered Natural Environments.
S. Ross, N. Barkhudarov, **K.S. Shankar**, A. Wendel, D. Dey, J.A. Bagnell, and M. Hebert. *ICRA 2013*.
 - [4] Real-World Testing of a Multi-Robot Team P. Scerri, P. Velagupudi, B. Kannan, A. Valada, C. Tomaszewski, J. Dolan, P. Scerri, **K.S. Shankar**, L.B. Clark, and G. Kantor. *AAMAS 2012*.

- [5] Real-World Testing of a Multi-Robot Team
P. Scerri, P. Velagupudi, B. Kannan, A. Valada, C. Tomaszewski, J. Dolan, A. Scerri,
K.S. Shankar, L.B. Clark, and G. Kantor. *ARMS 2012 Workshop*.

POSTERS

- [6] Implementing Obstacle Avoidance on a Mini UAV using 2D Vision
K.S. Shankar, D. Dey, J.A. Bagnell. *2012 Robotics Institute Summer Scholars Program*. 2012.
- [7] System Architecture for Cooperative Robotic Watercraft
K.S. Shankar, P. Velagapudi, P. Scerri. *2011 Robotics Institute Summer Scholars Program*. 2011.