VENGATESAN G

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EDUCATION	**PhD Candidate**, Mechanical Engineering (Jan 2013 - April 2017)

PhD Candidate, Mechanical Engineering (Jan 2013 - April 2017)
National University of Singapore **CAP: 4.67 / 5**

Thesis Title: Visual Coverage Path Planning of Unmanned Aerial Vehicles in Cluttered Environments
Modules completed: Advanced Robotics · Machine Vision · Visual Computing · Evolutionary Computation · Soft Robotics · Discrete Events Systems

Graduate Certificate in Management-of-Technology *(Aug 2015 - May 2016)*
Dept. of Engg. Technology and Management, National University of Singapore.

Modules completed: Intellectual Property Management · Management of Industrial R&D · Techlaunch: Experiential Entrepreneurship · Analyzing Hi-Technology Opportunities

Bachelor of Technology, Mechanical Engineering (2007 - 2011)
National Institute of Technology - Trichy **CAP: 8.97 / 10**

National level School Board Exams:

Class XII (CBSE)	2007	R.S.K. Hr. Sec. School, Trichy, India	**95.4**%
Class X (CBSE)	2005	R.S.K. Hr. Sec. School, Trichy, India	**91.8**%

EXPERIENCE **Aviation Officer**, at Mumbai International Airport, (Sept 2011 - Nov 2012)
Indian Oil Corporation Ltd.
In-charge of electrical maintenance of PLC, pumping equipments and Aircraft Refuelling Operations.

Teaching Assistant for modules EG1109 - Statics and Mechanics of Materials and ME3112 - Mechanics of machines. (Spring 2014, Fall 2015 resp.)
Lab Demonstrator for Vibration Measurement experiment for ME3112 - Mechanics of machines.

PUBLICATIONS **Conferences**

1. Vengatesan G, Gerard Leng, Zhang Qian, *Visibility-based UAV path planning for surveillance in cluttered environments* , 12th IEEE International Symposium on Safety, Security, and Rescue Robotics, Toyako - Japan (Oct - 2014)

2. Vengatesan G, Gerard Leng, Zhang Qian, *Visibility Maximization for Multi-UAV Surveillance over Urban Regions*, Singapore Airforce Technology Exhibition and Conference, Singapore (April - 2014)

Journals

1. Vengatesan G, Gerard Leng, Zhang Qian, *Multi-UAV Surveillance over Forested Regions* , Photogrammetric Engineering and Remote Sensing, Number 12, pp. 1129-1137(9) (Dec - 2014)

ACADEMIC ACHIEVEMENTS *Image Processing Robotics:*

- Won the **Second Prize** in **IIT-Bombay TechFest - 09** in the GOAL Event for building an autonomous Image Processing Soccer playing robot.

- Won the Second prize in an obstacles avoiding IP robot competition in **IIT Madras Shaastra - 09.** Won prizes for similar events in PSG College of Technology, Coimbatore and SRM University, Chennai.

BAJA - SAE All Asia: Participated in SAE-Baja All Asia 2010 All terrain vehicle design and fabrication competition held at NATRIP facility, Pithampur, Indore and achieved 17th position out of 80 teams.

PROJECT WORKS

Projects:
- Succesfully completed the Final Year Project on **Design and Control of Stewart Gough Platform** using MATLAB, SimMechanics and SimHydraulics under the guidance of Prof. Dr. M. Udayakumar, at **NIT Trichy**, (Jan - May 2011).
- Successfully completed a project on **Stereo Camera Calibration and 3D coordinate measurement using Stereovision** at Engineering Design Dept, **IIT Madras** under the guidance of Dr. Sankara J. Subramanian and Dr. G. Saravana Kumar for the **Summer Fellowship Programme (SFP - IITM) - 2010** (May 17th - July 17th 2010).
- Successfully completed a project on **Optimization of Magnetic Abrasive Finishing Process using Breeding Swarm Optimization** at Mechanical Engg Dept, **IIT Kanpur** under the guidance of Dr. J. Ramkumar, for the **Summer Undergraduate Research Grant for Excellence (SURGE - IITK) - 2009** (May 5th - July 5th, 2009).

TRAINING

- Attended a one week **Summer School on Multi-Robot Systems** (June 2016) conducted by IEEE Robotics &Automation Society and also presented a poster.
- Attended a workshop on Digital Radiography during Non Destructive Evaluation Conference (NDE-2009). Attended a foundation course on Heat Treatment Processes and Welding Technology for Fresh Engineers conducted by the Indian Insittute of Metals, Indian Welding Society Trichy.
- Completed an In-Plant Training in Bharat Heavy Electricals Ltd, Trichy.

COMPUTER SKILLS

- *Operating Systems :* **Linux**, Windows
- *Languages :* **C++, Python**
- *Packages :* **Robot Operating System (ROS), Gazebo, MATLAB, Simulink**, AutoCAD, Origin, PRO/E, Solidworks, LaTeX

EXTRA-CURRICULAR ACTIVITIES

Positions of Responsibility :
- Manager of a hands-on robotics workshop for building an autonomous 'Sumo-Robot's which had around 250 participants.
- Event Manager of an Image Processing Robotics event 'Snakes and Ladders' in a national level technical festival.
- Organized a science exhibition for students from rural schools and exhibited an Image Processing Robot to motivate the students to continue their studies.

Sports / Cultural Activities:
- Awarded the '**Best Firer**' in the rifle firing competition, and Second Best Cadet at the NCC - Combined Annual Training Camp held at Karur.
- **Parade Commander** at the inter-college NCC drill competition.