Pavan R Vasishta

Curriculum Vitae

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Pavan Vasishta
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May 27th, 1991

Professional Experience

March 2020 – **Postdoc**, *ENSTA ParisTech*, Paris, France.
Behaviour prediction of shared space users around autonomous vehicles for risk estimation

February 2015–August 2015 **Student Intern**, *Institute de Recherche Technologique (IRT Jules Verne)*, Nantes, France.
Implementation of a control strategy using multiple sensors for the UR10 Robot for safer operation around human workers in an industrial setting.

June 2012–July 2013 **Associate Software Engineer**, *Robert Bosch Engineering and Business Solutions Pvt. Ltd.*, Bangalore,India.
Worked on Automotive Embedded Programming based on AUTOSAR standard and working experience with CAN and Flexray and AUTOSAR Diagnostic Modules

June 2011–August 2011 **Student Intern**, *iRobot India (Pvt.) Ltd.*, Mysore,India.
Module design, fabrication, Programming a USB hub and microcontrollers for creating a gaming controller interface for the 210Negotiator robot.

Skills

Programming	Python, C++, PyCUDA, C, Matlab, Git/SVN, Latex
Packages	Scikit, Pandas, OpenCV, ROS, Gazebo, PyTorch
Strengths	Image Analysis, Probabilistic Prediction, Machine Learning, Self Organising Networks, Pedestrian Behaviour, Deep Learning
Languages	English (Native), Kannada (Maternal), Hindi (Fluent), French (Intermediate)
Reviewer	ITSC'18, IV'18, PPNIV- IROS'17
Tools	PSpice, AUTOCAD 2008, Solid Edge, CATIA Workbench, DELMIA, mikroC Pro, MPLAB
Experience with:	AUTOSAR development, AUTOSAR tools, scripting diagnostic tests. Embedded systems such as Intel 8051, AVR, PIC16, PIC32, Raspberry Pi, Infineon TriCore 27xx series, Freescale MPC 5675K, Renesas NEC V850.

Education

Feb 2016 – Sept 2019 **PhD in Mathematics and Informatics**, *Inria - Universite Grenoble Alpes*, Grenoble, France.

Sept 2013 – Sept 2015 **Master of Science in Control Engineering, Robotics and Applied Informatics - Advanced Robotics**, *Ecole Centrale de Nantes*, Nantes,France, *(2 Years)*.

Jul 2012 – Dec 2012 **Proficience Course in Intelligent Agents, *part-time***, *Indian Institute of Science*, Bangalore,India, *(6 Months)*.

Sept 2008 – Jun 2012 **Bachelor of Engineering in Electrical and Electronics Engineering**, *The National Institute of Engineering*, Mysore,India, *(4 Years)*.

Awards and Academic Affiliations

Award **Best Student Paper** at The 15th International Conference on Control, Automation, Robotics and Vision (ICARCV), 2018

Award **Funding** from the Dept. of Science and Technology, Govt. of India through the Innovation and Entrepreneurship Development Cell for the project "Semi-Automated Wheelchair"

Affiliation Member, IEEE Intelligent Transportation Society

Affiliation Vice Chairman of the National Institute of Engineering IEEE Student Branch

Affiliation Campus Ambassador for IBM University Relations, India

Affiliation Member of ONYX, the institutional branch of the National Entrepreneurship Network, India

Affiliation Core Committee member of the National Institute of Engineering Literary Club

PhD Thesis

Feb 2016 - Sept 2019 **Building and Leveraging Prior Knowledge for Predicting Pedestrian Behaviour Around Autonomous Vehicles in Urban Environments**.

PhD carried out under Dr.Anne Spalanzani and Dr.Dominique Vaufreydaz at Inria Grenoble in the CHROMA team. The thesis deals with understanding and predicting pedestrian behaviour in urban areas for safer navigation of autonomous vehicles. The thesis focuses on using sociological ideas like *Natural Vision* as a basis for using probabilistic methods to predict pedestrian behaviour in urban areas. The thesis has been financed by an ANR (*French National Research Agency*) grant for a collaborative project involving the research labs Inria Grenoble, Inria Paris, LS2N and the industrial partner AKKA. *Keywords: Markov Models, Potential Fields, Situational Awareness, Pedestrian Behaviour Prediction*

Selected Publications

Oct 2017 **Natural Vision Based Method for Predicting Pedestrian Behaviour in Urban Environments**, *IEEE 20th International Conference on Intelligent Transportation Systems(ITSC)*, Yokohama.

Sept 2017 **Urban Pedestrian Behaviour Modelling using Natural Vision and Potential Fields**, *9th Workshop on Planning, Perception and Navigation for Intelligent Vehicles at the IEEE International Conference on Intelligent Robots and Systems*, Vancouver.

Nov 2018 **Building Prior Knowledge: A Markov Based Pedestrian Prediction Model Using Urban Environment Data**, *The 15th International Conference on Control, Automation, Robotics and Vision (ICARCV)*, Singapore.