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Nationality: Indonesia

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Education:

Degree	Field	Institution	Graduation Date
Ph.D.	Mechanical Eng.	Pusan National University, Korea	Expected 2013
M.Eng.	Electrical Engineering	Bandung Inst. of Tech., Indonesia	June, 2006
B.Eng.	Electrical Engineering	Bandung Inst. of Tech., Indonesia	Feb., 2003

Dissertation Title:

"Trajectory Planning and Tracking for Multiple Vehicles Systems."
(Advisor: Prof. Keum-Shik Hong)

Work Experience:

Aug., 2006 ~ Nov., 2006	*IT System Designer* on Project "Implementation of Project Management Office System," PT Telekomunikasi Indonesia, Bandung, Indonesia
Oct., 2004 ~ Feb., 2005	*Programmer* (Java J2EE) on the Development of E-Procurement System, PT Badak, Bontang, Indonesia
March 2004 ~ July 2004	*IT System Designer*, Vocational Education Development Center for Agriculture (VEDCA), Cianjur, Indonesia
July 2003 ~ Oct., 2003	*Staff Engineer* on Project "Study of High Availability and Disaster Recovery," Information System Division, Pupuk Kalimantan Timur, Bontang, Indonesia

Academic Experience:

Aug., 2008 ~ March 2012	*Research Assistant*, Institute of Logistics Information Technology, Pusan National University (PNU), Korea
Aug., 2006 ~ July 2007	*Assistant Lecturer*, Harapan Bangsa Inst. of Tech, Indonesia
Jan., 2006 ~ June 2008	*Instructor*, SUN Microsystem-ITB Java Competency Center, Bandung Inst. of Tech, Indonesia
July 2002 ~ June 2003	*Instructor*, Web Programming Training Program, Bandung Inst. of Tech, Indonesia
July 2000 ~ March 2003	*Research Assistant*, Dept. Electrical Eng., Bandung Inst. of Tech, Indonesia

Field of Current Research:

(1) Trajectory tracking for multiple vehicles in consideration of reaching time

Problem of tracking pre-defined collision-free trajectories for multiple-vehicles systems recently falls into the ability of the controller to minimize tracking error in short time. This feature is important, since large and long-term tracking error reduction might lead to a situation where collision avoidance motions are needed, which in turn, might cause longer achieving time. To solve the problem, a class of envelope functions (attached to each vehicle's reference) that represent allowable vehicle-to-reference distances is proposed. The decreasing rates of these functions lead to the attractive motion of the vehicles to their respective references.

(2) Collision-free and minimum-time trajectory planning for multiple vehicles

In a multiple wheeled vehicles, the requirement of collision-free trajectory planner is mandatory. For industrial point of view, this feature could help supply-chain process avoiding particular bottleneck conditions. This research focuses on searching of collision-free and minimum-time trajectories of a group of wheeled vehicles in a limited workspace. A Particle Swarm Optimization (PSO)-based method is developed to solve the problem.

(3) Integrated planning and control for multiple-vehicles considering reaching time

Integrated trajectory planning and control for multiple wheeled vehicles has been a fascinating issue. Particular applications such as huge and complex logistics systems need a synchronization of material pick-and-load planning and execution such that the entire supply-chain process can be figured out. In multiple-vehicle systems, preferably the generated trajectory planning must be tracked precisely by the vehicles. For that purpose, a mechanism of integrated trajectory planning and control needs to be investigated. A type of switched planning and control algorithm is considered as an alternative of solution.

Rewards, Honors:

Dec., 2005 Sun Certified Java Programmer (SCJP)

Tutorial Workshops Attended:

Jan 12-16, 2009 Verification and Control of Nonlinear and Hybrid Systems, the HYCON-EECI Graduate School on Control, Supelec, Gif-sur-Yvette, France.

Technical Skills:

(1) Microsoft Visual C/C++
(2) JAVA Programming (J2SE and J2EE)
(3) MATLAB Programming (Basic functions, Control System Toolbox, and Simulink
(4) Microsoft Office (Word, Excel, Power Point, Access)

Publications

Journals: (Include papers submitted for publications.)

[1] A. K. Pamosoaji and K.-S. Hong, “Path planning algorithm using vector potential functions in triangular regions,” *IEEE Transactions on Systems, Man, and Cybernetics -A*, 2012, DOI: 10.1109/TSMCA.2012.2221457.

[2] A. K. Pamosoaji and K.-S. Hong, “Trajectory tracking control for multiple nonholonomic vehicles in consideration of reaching time and actuator limitations,” *IEEE Transactions on Industrial Electronics*, under reviewed.

[3] A. K. Pamosoaji, P. T. Cat, and K.-S. Hong, “Sliding mode and neural network-based control of a wheeled vehicle,” *International Journal of Systems and Science*, 2012, *accepted*.

[4] A. Widyotriatmo, A. K. Pamosoaji, and K.-S. Hong, "Control architecture of an autonomous material handling vehicle," *International Journal of Artificial Intelligence*, vol. 10, no. S13, pp. 139-153, March 2013.

Conference Proceedings:

[1] A. K. Pamosoaji and K.-S. Hong, “Time-constrained trajectory tracking control algorithm for multiple-vehicle systems,” *Proceedings of the International Conference on Mechatronics and Automation (ICMA 2012)*, pp. 1148-1153, Chengdu, China, Aug. 5-8, 2012.

[2] A. K. Pamosoaji and K.-S. Hong, and S. S. Ge, “Trajectory planning and control for multiple-vehicles systems,” *Proceedings of the 8th International Conference of Ubiquitos Robots and Ambient Intelligence (URAI 2011)*, pp. 461-466, Incheon, Korea, Nov. 23-26, 2011.

[3] A. K. Pamosoaji and K.-S. Hong, “Collision-free path and trajectory planning algorithm for multiple-vehicle systems,” *Proceedings of the 5th International Conference on Cybernetics and Intelligence Systems and on Robotics, Automation and Mechatronics*, pp. 67-72, Qingdao, China, Sept. 17-19, 2011.

[4] A. K. Pamosoaji, A. Widyotriatmo, and K.-S. Hong, “Sensor-based planning and control algorithms for a mobile robot over a given global planning,” *Proceedings of the 30th Chinese Control Conference*, pp. 3610-3614, Yantai, China, July 22-24, 2011.

[5] A. Widyotriatmo, A. K. Pamosoaji, and K.-S. Hong, “Robust configuration control of a mobile robot with uncertainties,” *Proceedings of the 8th Asian Control Conference*, pp. 1036-1041, Kaohsiung, Taiwan, May 15-18, 2011.

[6] A. K. Pamosoaji, G.-Y. Hong, A. Widyotriatmo, and K.-S. Hong, “Minimum-time task assignment algorithm for multiple-vehicle systems,” *Proceedings of the 8th Asian Control Conference*, pp. 85-89, Kaohsiung, Taiwan, May 15-18, 2011.

[7] A. K. Pamosoaji and K.-S. Hong, "Vector-Potential-Function-based motion planning for nonholonomic robots in a complex workspace," *Proceedings of the 31st IASTED International Conference on Modelling, Identification, and Control*, pp. 248-253, Innsbruck,

Austria, Feb. 14-16, 2011.

[8] A. K. Pamosoaji, A. Widyotriatmo, and K.-S. Hong, “A motion planning algorithm for a nonholonomic vehicle using vector potential functions in triangular regions,” *Proceedings of the International Conference on Control, Automation and Systems*, pp. 66-70, KINTEX, Korea, Oct. 27-30, 2010.

Technical Reports and Others:

[1] “Implementation of Obstacle Avoidance Behavior in Soccer Robot,” Master Thesis, Bandung Institute of Technology, 2006.

[2] “Implementation of RTP-Based Communication in Telerobotics,” Final Project of Bachelor Degree Program, Bandung Institute of Technology, 2003.