LUMS-CSS Joint Seminars on Systems & Control

Department of Electrical Engineering, LUMS *and*
IEEE Control Systems Society (Pakistan Chapter) *jointly present*

Feedback Control Scheduling for Crane Control System

Date: Friday, Sept 6, 2013
Venue: Acad Block A-16
Time: 11:00am-12:00pm

About the Seminar

Feedback control theory has a long history. Real time computing systems integrated with feedback control theory are more robust against internal and external disturbances. Classical scheduling algorithms especially: Rate Monotonic and Earliest Deadline First cannot achieve the optimal possible Quality of Service (QoS) level that features real time constraints and requirements. In order to cope with the dynamic workloads and resource constraints, control scheduling co-design is very advantageous. Control scheduling co-design takes into account both the control techniques and the real time computing aspects simultaneously at design level. Unfortunately, over the past few years, there is no or a very small amount of work is done on the practical side. That's why only a few real time systems, having feedback based control scheduling implemented, are actually deployed. This seminar will present a case study of integrating feedback control scheduling algorithm for crane control systems to provide QoS in terms of system performance and resource utilization. This procedure is especially important for industrial automation.

About the speaker

OumairNaseer is a final year PhD student at the Intelligent Systems Lab, School of Engineering, University of Warwick, UK. He is a member of IEEE Computer Society, IEEE Vehicle Community, IEEE Sensors Council, IEEE Systems Council, IEEE communication Society and IEEE Technology Management Council. He is a reviewer of European Journal of Science and Engineering, International Journal of Innovation and Applied Studies and International Conference on Technological Advances in Electrical, Electronics and Computer Engineering (TAEECE2014). Before joining University of Warwick, he was working as Embedded Software Developer at Powersoft19. He has two years of experience in implementing Safety Critical Systems especially; Cranes, Rail Car Mover and Locomotives.

Organizer
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