Dipankar Maity

Contact Information

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Education

University of Maryland, College Park, U.S.A. 08/2013 $\sim$ 05/2018 (expected)
PhD Candidate, Department of Electrical and Computer Engineering, GPA: 4.0/4.0
Thesis title: *Controller Synthesis under Information and Finite Time Logic Constraints*
Research Advisor: Prof. John S. Baras,

Jadavpur University, Kolkata, India 07/2009 $\sim$ 05/2013
B.E., Department of Electronics and Telecommunication Engineering, GPA: 9.58/10, Class Rank: 1

Experience

Visiting Student 09/2017 $\sim$ 11/2017
KTH Royal Institute of Technology, Sweden (Hosts: Karl. H. Johansson, Dimos V. Dimarogonas)

Internship 01/2016 $\sim$ 05/2016
GE Global Research, Munich (Lab Manager: Axel Busboom, Mentors: Alexander Walsch, Marianne Hartung, Simone Schuler)

Visiting Student 07/2015 $\sim$ 08/2015
Technische Universität München (Host: Sandra Hirche)

Research Interest

My thesis is primarily focused on event-based controller synthesis under temporal logic constraints. I have also worked on (stochastic) differential games with costly information. My interests lies in *Formal methods based control*, *Event based control*, *Stochastic games and decentralized optimal control*, *Temporal logic based Motion planning.*

Teaching Experience

Graduate Teaching Fellow, Fall 2016.
Co-instructor for ENEE762: Stochastic Control
Instructor: John S. Baras

Guest lecturer for ENSE622/EMPM642: Systems Requirements, Design and Trade-Off Analysis, Spring 2017.

Work in Preparation

1. **P1**: "Optimal Event Triggered Controller Synthesis for Non-Deterministic Linear Systems " with John S. Baras

P2 "Optimal Nonlinear Stochastic Control with Costly Measurements" with John S. Baras.

P3 "A Set-Valued Control Approach for Platoon Coordination" with Karl H. Johansson and John S. Baras.

P4 "Event Triggered Control for Signal Temporal Logic Specifications" with Dimos V. Dimarogonas and John S. Baras.

Selected Conference Publications

D. Maity, Achilleas Anastasopoulos, and J. S. Baras, "Linear Quadratic Games with Costly Measurements", *56th IEEE Conference on Decision and Control*, 2017. (Accepted)

D. Maity, J. S. Baras, "Linear Quadratic Stochastic Differential Games under Asymmetric Value of Information", *IFAC-PapersOnLine*, Vol. 50(1), pp. 8957–8962, 2017.

D. Maity, J. S. Baras, "Asymptotic Strategies for Stochastic Differential Linear Quadratic Games with Constrained State Feedback", *In Control and Automation (MED), 25rd Mediterranean Conference, IEEE*, pp. 117-122, 2017.

D. Maity, A. Raghavan and J. S. Baras, "Stochastic differential linear-quadratic games with intermittent asymmetric observations" *American Control Conference*, IEEE, pp. 3670–3675, 2017.

D. Maity and J. S. Baras "Optimal strategies for stochastic linear quadratic differential games with costly information", *55th IEEE Conference on Decision and Control*, pp. 276-282, 2016.

C. Somarakis, **D. Maity** and J. S. Baras "The Effect of Delays in the Economic Dispatch Problem for Smart Grid Architectures", *American Control Conference*, IEEE, pp. 3533–3538, 2016 .

E. Paraskevas, **D. Maity** and J. S. Baras "Distributed Energy-Aware Mobile Sensor Coverage Game with Inter-Agent Communication", *American Control Conference*, IEEE, pp, 6259–6264, 2016.

Y. Zhou, **D. Maity**, and J. S. Baras "Timed Automata Approach for Motion Planning Using Metric Interval Temporal Logic", *In 2016 IEEE European Control Conference*, pp. 690–695, Denmark, 2016.

V. S. Mai, **D. Maity**, B. Ramasubramanian and M. C. Rotkowitz, "Convex Methods for Rank-Constrained Optimization Problems, *In Control and Its Applications, SIAM* pp. 123–130, July 2015.

D. Maity and J. S. Baras "Event Based Control of Stochastic Linear Systems", *1st IEEE international Conference on Event-Based Control, Communication and Signal Processing*, pp. 1–8, 2015.

D. Maity and J. S. Baras "Dynamic, Optimal Sensor Scheduling and Value of Information", *Information Fusion (Fusion), 2015 18th International Conference on*, pp. 239–244, 2015.

D. Maity and J. S. Baras "Event Based control of Nonlinear Systems: A Lyapunov Function Based Approach", *54th IEEE Conference on Decision and Control*, pp. 3767–3772, 2015.

D. Maity and J. S. Baras, "Motion Planning in Dynamic Environment with Bounded Time Temporal Logic Specifications", *In Control and Automation (MED), 23rd Mediterranean Conference, IEEE*, pp. 940–946, Spain, 2015.

Y. Zhou, **D. Maity** and J. S. Baras, "Optimal Mission Planner with Timed Temporal Logic Constraints", *In 2015 IEEE European Control Conference*, pp. 759–764, Austria, 2015.

Achievements and Awards

–Outstanding Graduate Assistant, University of Maryland, College Park, USA. 2017
–Graduate Teaching Fellow, University of Maryland, College Park, USA. 2016
–Future Faculty Fellow, University of Maryland, College Park, USA. 2016
–International Graduate Research Fellowship, University of Maryland, College Park, USA. 2015
–Clark School Distinguished Graduate Fellowship, University of Maryland, College Park, USA. 2013
–University Gold medal, Jadavpur University, India. 2013
–Secured All India Rank **16** in Graduate Aptitude Test in Engineering (GATE) (Entrance examination for pursuing Masters degree), in Electronics & Communication Engineering. 2013
–Several other awards, scholarship and certificates for academic performances.

References

Prof. John S. Baras
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Department of Electrical and Computer Engineering,
Institute of Systems Research,
University of Maryland, USA
Email: baras@isr.umd.edu

Prof. Karl H. Johansson
Director, SRA ICT TNG
School of Electrical Engineering
KTH Royal Institute of Technology, Sweden
Email: kallej@kth.se

Prof. André L. Tits
Dept. of Electrical & Computer Engineering
Institute of Systems Research,
University of Maryland, USA
Email: andre@umd.edu

Prof. Dimos V. Dimarogonas
Department of Automatic Control
School of Electrical Engineering
KTH Royal Institute of Technology, Sweden
Email: dimos@kth.se

Prof. Sandra Hirche
Chair of Information-oriented Control
Dept. of Electrical & Computer Engineering
Technische Universität München, Germany
Email: hirche@tum.de