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Research Interests

State estimation, Nonlinear filtering, Target tracking
Estimation of state of charge (SoC) in battery systems

Education

Ph.D. in Electrical Engineering
Indian Institute of Technology Patna, December 2018

M.Tech in Control Systems
National Institute of Technology Kurukshetra, July 2013

B.Tech in Applied Electronics & Instrumentation
Government Engineering College Calicut, August 2010

Thesis & Dissertation

- Rahul Radhakrishnan. *Nonlinear Filtering: Extensions and Application to Target Tracking Problems*, Indian Institute of Technology Patna, December 2018.
 - Rahul Radhakrishnan. *H_∞ control of time delay systems: LMI approach*, National Institute of Technology Kurukshetra, 2013.
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Training & Projects

- Company: Hindustan Organic Chemicals Limited, Kochi (March 2010)
Work: Boiler three element drum level control using Yokogawa DCS system-CENTUM 3000
 - Mini Project: Micro controller based IR sensing robot
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Publications**Journals**

- Rahul Radhakrishnan, Abhinoy Kumar Singh, Shovan Bhaumik, Nutan Kumar Tomar, “Multiple sparse-grid Gauss-Hermite filtering”, *Applied Mathematical Modelling*, Elsevier, Vol. 40, no. 7-8, pp. 4441-4450, April 2016.
- Rahul Radhakrishnan, Ajay Kumar Yadav, Paresh Date, Shovan Bhaumik, “A new method for generating sigma points and weights for nonlinear filtering”, *IEEE Control Systems Letters*, vol. 2, no. 3, pp. 519-524, July 2018.
- Rahul Radhakrishnan, Shovan Bhaumik, Nutan Kumar Tomar, “Gaussian sum shifted Rayleigh filter for underwater bearings-only target tracking problems”, *IEEE Journal of Oceanic Engineering*, Vol. 44, no. 2, pp. 492-501, April 2019.
- Rahul Radhakrishnan, Shovan Bhaumik, Nutan Kumar Tomar, “Continuous-discrete filters for bearings-only underwater target tracking problems”, *Asian Journal of Control*, DOI: 10.1002/asjc.2011.
- Abhinoy Kumar Singh, Rahul Radhakrishnan, Shovan Bhaumik, Paresh Date, “Adaptive sparse-grid Gauss-Hermite filter”, *Journal of Computational and Applied Mathematics*, Elsevier, vol. 342, pp. 305-316, Nov. 2018.

Conferences

- Rahul Radhakrishnan, Shovan Bhaumik, Nutan Kumar Tomar, “Continuous-discrete shifted Rayleigh filter for underwater passive bearings-only target tracking”, *Asian Control Conference, ASCC, Gold Coast, Australia, 2017*.
- Ranjeet Kumar Tiwari, Rahul Radhakrishnan, Shovan Bhaumik, “Particle filter for underwater passive bearings-only target tracking with random missing measurements”, *accepted in European Control Conference, ECC, Limassol, Cyprus, 2018*.
- Rahul Radhakrishnan, Abhinoy Kumar Singh, Shovan Bhaumik, Nutan Kumar Tomar, “Quadrature filters for underwater passive bearings-only target tracking”, *Sensor Signal Processing for Defence (SSPD), Edinburgh, 2015*.
- Rahul Radhakrishnan, Shovan Bhaumik, Nutan Kumar Tomar, “Continuous-discrete quadrature filters for intercepting a ballistic target on reentry using seeker measurements”, *Proc. of the Third IFAC International Conference on Advances in Control and Optimization of Dynamical Systems (ACODS), 2018*.
- Abhinoy Kumar Singh, Rahul Radhakrishnan, Shovan Bhaumik, Paresh Date, “Computationally efficient sparse-grid Gauss-Hermite filtering”, *Indian Control Conference (ICC), IIT Guwahati, 2017*.
- Rahul Radhakrishnan, Manika Saha, Shovan Bhaumik, Nutan Kumar Tomar, “Ballistic target tracking and its interception using suboptimal filters on reentry”, *Sixth International Symposium on Embedded Computing and System Design (ISED), IIT Patna, 2016*.
- Rahul Radhakrishnan, Abhinoy Kumar Singh, Shovan Bhaumik, Nutan Kumar Tomar, “IMM-cubature quadrature Kalman filter for manoeuvring target tracking”, *Signal Processing, Informatics, Communication and Energy Systems (SPICES), NIT Calicut, 2015*.
- Vikas Kumar Mishra, Rahul Radhakrishnan, Abhinoy Kumar Singh, Shovan Bhaumik, “Bayesian filters for parameter identification of Duffing oscillator”, *Proc. of the Third IFAC International Conference on Advances in Control and Optimization of Dynamical Systems (ACODS), 2018*.
- Abhinoy Kumar Singh, Shovan Bhaumik, Rahul Radhakrishnan, “Nonlinear estimation with transformed cubature quadrature points”, *IEEE International Symposium on Signal Processing and Information Technology, Noida 2015*.

Book chapter

- Rahul Radhakrishnan, Shovan Bhaumik, Nutan Kumar Tomar, Abhinoy Kumar Singh, “Bearing-only tracking using sparse-grid GaussHermite filter”, *Intelligent Computing and Applications, Springer*, pp. 349-356.
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Membership in Professional bodies

Automatic Control & Dynamics Optimization Society (ACDOS)

Teaching Experience

- Assistant Professor in Department of Electronics and Communication Engineering, SRM Institute of Science and Technology, Chennai (June 2018 to January 2019)
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Research Experience

- Post Doctoral Fellow, Department of Chemical Engineering, IIT Bombay (February 2019 to September 2019).
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Reviewer

- IEEE Control Systems Letters
 - IEEE/CAA Journal of Automatica Sinica
 - IEEE Transactions on Automatic Control
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List of Referees

- Dr. Shovan Bhaumik
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Indian Institute of Technology Patna
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- Dr. Paresh Date
Senior Lecturer in Mathematics
Head of Financial Mathematics
Operational Research and Statistics (FORS) Group
College of Engineering, Design and Physical Sciences
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- Dr. Mani Bhushan
Professor
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Indian Institute of Technology Bombay
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