Arunava Naha

Present address Von Kraemers Alle 29,
Room 1201-17,
75237 Uppsala, Sweden
Email: arun.naha@gmail.com
Alternate Email: arunava.naha@angstrom.uu.se
Mob. no. +91 9007459230
Alternname no. +46 0764552158
website: `https://scholar.google.co.in/citations?user=46UQzpYAAAAJ&hl=en`
`https://www.linkedin.com/in/arunava-naha-7041aa28/`

Current Position Postdoctoral research fellow at the Signals and Systems Group, Uppsala University, Sweden since October 2019.

Research interest Statistical signal processing, safety and security of cyber-physical systems (CPS), fault diagnosis and condition monitoring, machine learning, system identification, optimization.

Software Proficiency MATLAB, Python, Simulink, c, Java, SQL, PLSQL.

Current Research Project Protection of cyber-physical systems (CPS) from data deception attacks using physical watermarking. A control-theoretic approach along with sequential quickest detection techniques is considered in our study, and we are exploring the possibility of the application of the game-theoretic approach and machine learning.

Past Research Project

1. Condition monitoring and fault diagnosis of Li-ion batteries. This research involved the application of statistical estimation and detection theories, machine learning, electrical modelling, etc. to detect the internal short circuit in Li-ion batteries and to estimate the state of health (SoH) of Li-ion batteries. The research was carried out at Samsung R&D.
2. Detection of low amplitude stationary and non-stationary signals, and diagnosis of weak faults in squirrel cage induction motors under various loading conditions. This research involved the study of subspace-based frequency estimation techniques to detect low amplitude fault frequencies in the presence of dominating high amplitude closely spaced fundamental component from the induction motor armature current signal. The research was carried out as part of my PhD thesis at the Indian Institute of Technology (IIT) Kharagpur.
3. Estimation of pulverised coal flow rates from a coal mill using sensor fusion. This research involved the study of metaheuristics optimization techniques, system identification, and estimation theories. The research was carried out as part of my MS thesis at IIT Kharagpur.

Work Experience

1. **Staff Engineer at Samsung R&D Institute India - Bangalore Ltd.** (Feb., 2017 - Sep., 2019):

   i. **Project Title** : Health monitoring of Li-ion batteries
   Duration: February 2017 to September 2019

2. **Sponsored Research and Industrial Consultancy, IIT Kharagpur** (2010 - 2016):

   i. **Project Title** : Design and Development of an On-board Intelligent Embedded Platform for detection of weak failure modes and prognosis of severe faults in locomotives and associated equipments
   Duration: October 2012 to May 2016
   Sponsoring Agency: RDSO, Indian Railways, Lucknow, India

   ii. **Project Title** : Advanced Control and Failure Prognosis and Diagnosis of Industrial Processes for Steel making using Data Fusion
   Duration: July 2010 to October 2012
   Sponsoring Agency: Department of Information Technology, Delhi, India

3. TATA Consultancy Services Ltd. (2006 - 2010):

i. Project Title : Extended center of excellence (CoE)
Duration: October 2009 to July 2010
Client: GE Energy

ii. Project Title : ERP Implementation Project for GE Nuclear Energy
Duration: January 2009 to October 2009
Client: GE Nuclear Energy Parts Business

iii. Project Title : CITI Bank and CGSL Payroll
Duration: December 2006 to October 2008
Client: CITI Bank and CGSL (CITI Group Global Services Ltd.)

Education

Doctor of Philosophy (May 2014 to October 2018)
Department: Electrical Engineering
Institute: Indian Institute of Technology Kharagpur
Thesis title: Detection of Weak Faults in Squirrel Cage Induction Motors using Frequency Estimation Techniques
Supervisors: Prof. Aurobinda Routray, Department of Electrical Engineering, IIT Kharagpur, Pin 721302, India & Prof. Alok Kanti Deb, Department of Electrical Engineering, IIT Kharagpur, Pin 721302, India

Master of Science (by Research) in Electrical Engineering (2011 - 2013)
Institute: Indian Institute of Technology Kharagpur
Thesis title: A Soft Sensing Approach for Estimating Plant Parameters
CGPA: 9.51 (out of 10)

Bachelor of Engineering in Electrical Engineering (2002 - 2006)
Institute: Indian Institute of Engineering Science and Technology, Shibpur, India
(Formerly Bengal Engineering and Science University, Shibpur)
Marks: 79.76%

Volunteer Activity

1. Associate Editor of :
IEEE Transactions on Instrumentation and Measurement

2. Vice-chair of :
IEEE Signal Processing Society student branch, IIT Kharagpur section, 2014 to 2016.

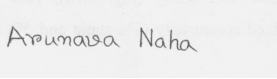
Certifications TCS-GE Green Belt Certification in Six Sigma.

Awards Samsung Citizen Award.

Personal Details

Permanent Address: 179, Debinibas Road, P.O. Motijheel Kolkata-70074 West Bengal, India
Date of birth: 01-Mar-1984
Languages: English, Hindi, Bengali
Citizenship: Indian

I hereby declare that the above information is true to the best of my knowledge.



Arunava Naha
Date: 17-Apr-2021
Place: Uppsala, Sweden