BRAGHADEESH LAKSHMINARAYANAN

blak@kth.se, braghadeesh94@gmail.com

EDUCATION

KTH Royal Institute of Technology, Stockholm, Sweden August 2021 - Present
PhD in Electrical Engineering
Division of Decision and Control

Indian Institute of Science, Bangalore, India August 2018 - July 2020
Master's in Communication & Networks Overall CGPA : 8.5/10
Department of Electrical Communication Engineering *Distinction*

National Institute of Technology, Trichy, India July 2012 - May 2016
Bachelor's in Electronics & Communication Engineering Overall CGPA : 7.97/10
Department of Electronics & Communication Engineering *First Class*

RESEARCH INTERESTS

Parameter estimation, Optimization, Machine learning, and Sequential decision making under uncertainity.

PUBLICATIONS

Conference Articles

- **Braghadeesh Lakshminarayanan** and Cristian. R. Rojas, A Statistical Decision-Theoretical Perspective on the Two-Stage Approach to Parameter Estimation. *61st IEEE Conference on Decision and Control (CDC 2022)* (accepted for publication), 2022.
- Aditya Gopalan, **Braghadeesh Lakshminarayanan** and Venkatesh Saligrama, Bandit Quickest Changepoint Detection. *35th Conference on Neural Information Processing Systems (NeurIPS 2021)*, 2021.

RESEARCH EXPERIENCE

Master's Thesis August 2019 - July 2020
Advisor: Dr. Aditya Gopalan
IISc, Bangalore
During my master's thesis, I primarily worked on intersection of multi-armed bandits and change-point detection. In this thesis, I looked at change-point detection in stochastic linear bandits' framework, where the observations from each action are linear (in expectation) with respect to the action's features as well as the underlying bandit parameter. The aim is to play arms or actions adaptively to detect a change in the bandit parameter. Algorithms were heuristically proposed to detect the change and numerical simulations were carried out.

WORK EXPERIENCE

KTH Royal Institute of Technology January 2022 - March 2022
Teaching Assistant for the Course EL2810 Machine Learning Theory
Course responsible: Prof. Alexandre Proutiere and Prof. Cristian Rojas

- Handled exercise and lab sessions

IISc Bangalore September 2020 - March 2021
Project Assistant
Supervisor: Dr. Aditya Gopalan

- Extended my master's thesis work on Bandit Change-Point Detection
  - Implemented novel bandit change point algorithm and tested the algorithm on MIMII machine sound data set.

Wipro Technologies, Bangalore July 2016 - September 2017
Project Engineer

- Worked as **VLSI Engineer**. Worked on 5G project that involved:
  - Verification of CPU subsystem block, specifically functional coverage of CPU. The goal of the functional coverage is to check whether all corner test cases such as read/write operation on CPU memory are successful.
- Tools used: DVE, VCS

IISc, Bangalore May 2015 - July 2015
Summer Intern

- Goal: To detect the different instruments present in a given time frame of a given music signal. The goal was achieved by analyzing the music signal, segment by segment, to exploit its short term periodicity. Two-dimensional FFTs of signals spectrogram were applied to find the possible pitch candidates, followed by the density based clustering (*GDBSCAN* algorithm) for classification.
- Tools used: MATLAB, Praat, Audacity

SOFTWARE SKILLS

C/C++, MATLAB, Python