SUBHOJYOTI MUKHERJEE

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Research Interests Active learning, Reinforcement Learning, Online Learning, Multi-armed bandits.

Education

University of Wisconsin-Madison, Madison, USA — Fall 2019 – current
Ph.D., Electrical & Computer Engineering
Adviser: Dr. Robert Nowak

University of Wisconsin-Madison, Madison, USA — Fall 2019 – 2021
M.S, Electrical Engineering
Adviser: Dr. Robert Nowak
(Transferred out from UMass Amherst)

University of Massachusetts, Amherst, USA — 2018 – 2019
Ph.D., Computer Science

Indian Institute of Technology Madras, India — 2015–2018
M.S (Research), Computer Science
Advisers: Dr. Balaraman Ravindran and Dr. Nandan Sudarsanam

West Bengal University of Technology, Kolkata, India — 2009–2013
Bachelor of Technology, Computer Science & Engineering

Publications

1. Samarth Gupta, Shreyas Chaudhari, **Subhojyoti Mukherjee**, Gauri Joshi, Osman Yagan, "*A Unified Approach to Translate Classical Bandit Algorithms to the Structured Bandit Setting*", *Accepted in IEEE International Conference on Acoustics, Speech and Signal Processing **(ICASSP-21)***. [Paper]
2. Samarth Gupta, Shreyas Chaudhari, **Subhojyoti Mukherjee**, Gauri Joshi, Osman Yagan, "*A Unified Approach to Translate Classical Bandit Algorithms to the Structured Bandit Setting*", *Accepted in IEEE Journal on Selected Areas in Information Theory **(2020)***. [Paper]
3. **Subhojyoti Mukherjee**, and Odalric-Ambrym-Maillard, "*Distribution-dependent and Time-uniform Bounds for Piecewise i.i.d Bandits*", *Accepted in Thirty-sixth International Conference on Machine Learning **(ICML-19)***, Workshop on Reinforcement Learning for Real Life 2019 track [Poster]. [Paper]
4. **Subhojyoti Mukherjee**, Ardhendu Tripathy, and Robert Nowak, "*Generalized Chernoff Sampling: A New Perspective on Structured Bandit Algorithms*", *Accepted in Thirty-seventh International Conference on Machine Learning **(ICML-21)***, Workshop on Theoretical Foundations of Reinforcement Learning [Poster]. [Paper]
5. **Subhojyoti Mukherjee**, and Odalric-Ambrym-Maillard, "*Distribution-dependent and Time-uniform Bounds for Piecewise i.i.d Bandits*", *Accepted in Thirty-sixth International Conference on Machine Learning **(ICML-19)***, Workshop on Reinforcement Learning for Real Life 2019 track [Poster]. [Paper]

6. **Subhojyoti Mukherjee**, K.P. Naveen, Nandan Sudarsanam, and Balaraman Ravindran, "*Efficient UCBV: An Almost Optimal Algorithm using Variance Estimates*", *Proceedings of the Thirty-Second Association for the Advancement of Artificial Intelligence **(AAAI-18)***, main conference track [Oral].[Paper]
7. **Subhojyoti Mukherjee**, K.P. Naveen, Nandan Sudarsanam, and Balaraman Ravindran, "*Thresholding Bandits with Augmented UCB*", *Proceedings of the Twenty-Sixth International Joint Conference on Artificial Intelligence **(IJCAI-17)***, main conference track [Oral + Poster]. [Paper]

Research Internships

1. **CMU, ECE Dept., Pittsburgh, USA:** From 10th June, 2019 to 16th August, 2019. Host Dr. Gauri Joshi.
2. **Adobe Research, San Jose, USA:** From 22nd January, 2018 to 20th April, 2018. Host Dr. Branislav Kveton.
3. **INRIA, SequeL Lab, Lille, France:** Frrom 1st September, 2017 to 28th November, 2017. Host Dr. Odalric Maillard.

Master's Thesis (EE, UW-Madison)

Active Sequential Hypothesis Testing with Extension to Active Regression and Multi-armed Bandits

Master's Thesis (CS, IIT Madras)

Finite-time Analysis of Frequentist Strategies for Multi-armed Bandits

Collaborators

1. Dr. Robert Nowak, ECE Department, UW-Madison
2. Dr. Ardhendu Tripathy, CS Department, MS & T
3. Dr. Balaraman Ravindran, CSE Department, IIT Madras
4. Dr. Nandan Sudarsanam, Department of Management Science, IIT Madras
5. Dr. K.P. Naveen, Deprtment of Electrical Engineering, IIT Tirupati
6. Dr. Odalric-Ambrym Maillard, INRIA, SequeL Lab, Lille, France
7. Dr. Branislav Kveton, Google Research, Mountain View, USA
8. Dr. Gauri Joshi, ECE Department, CMU, Pittsburgh

Teaching Experience

Teaching Assistant, UW-Madisont 2019–current

Teaching Assistant, UMass Amherst 2018–2019

Assisted in preparing and conducting lab assignments and class tutorials for the following courses:
Natural Language Processing - Prof. Mohit Iyyer
Design of Algorithms - Prof. Daniel Sheldon

Teaching Assistant, IIT Madras 2015–2018

Assisted in preparing and conducting lab assignments and class tutorials for the following courses:
Introduction to Programming - Prof. Raghavendra Rao B. V.
Reinforcement Learning(twice) - Prof. Balaraman Ravindran
Compiler Design - Prof. Rupesh Nasre

Work Experience

Tata Consultancy Services Ltd., Kolkata, India March 2014–December 2014

Assistant System Engineer Trainee

Software development and test engineer in Digital Enterprise Service and Solution.

Professional Activities

Reviewer

1. Reviewed for UAI 2021, ICMLA 2021, RARL Workshop at ICML 2021.
2. Assisted Dr. Balaraman Ravindran in reviewing for IJCAI 2017.
3. Assisted Dr. Branislav Kveton in reviewing for ICML 2018.

Volunteer

1. Assisted Dr. Balaraman Ravindran in conducting the *"Recent Advances in Reinforcement Learning, 2015"* workshop held at IIT Madras. Some of the key speakers include, Dr. Richard Sutton, Dr. Csaba Szepesvari, Dr. Sridhar Mahadevan, and Dr. Satindar Singh.

Relevant Coursework [more information]

Introduction to Machine Learning	Reinforcement Learning
Natural Language Processing	Linear Algebra and Random Processes
Multi-variate Data Analysis	Data Analysis for Research
Artificial Intelligence	Design and Analysis of Algorithms

Relevant Languages

C, C++, Java, Javascript, Python

Award Grants and Fellowship

1. UW-Madison Chancellor's Opportunity Fellowship 2019-20.
2. UW-Madison ECE Welcome Award of USD 3000.
3. IIT Madras student travel grant of USD 2300.
4. Google travel grant of USD 1700.
5. AAAI grant of USD 500.
6. Microsoft travel grant of USD 1435.

Other Achievements

Scored 318/340 in Graduate Record Examinations **(GRE)** 2018.
Scored 111/120 in Test of English as a Foreign Language **(TOEFL)** 2017.
Ranked 1150/155190 candidates in Graduate Aptitude Test in Engineering **(GATE)** 2014.
Secured 98.93 percentile in Common Admission Test **(CAT)** 2014 among 196988 candidates.

References

Dr. Balaraman Ravindran
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ravi@cse.iitm.ac.in
CS Dept, IIT Madras

Dr. Nandan Sudarsanam
Assistant Professor
nandan@iitm.ac.in
DoMS, IIT Madras

Dr. K.P. Naveen
Assistant Professor
naveenkp@iittp.ac.in
EE Dept, IIT Tirupati

Dr. Odalric Maillard
INRIA Researcher (CR1)
odalricambrym.maillard @ inria.fr
SequeL Team, INRIA Lille, France

Dr. Branislav Kveton
Machine Learning Scientist
kveton@google.com
Google Research, Mountain View, CA, USA

Dr. Robert Nowak
Professor
rdnowak@wisc.edu
ECE Dept, UW-Madison