

Research: Graph-based Machine Learning and Reinforcement Learning
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EDUCATION

PHD IN CS, MCGILL UNIVERSITY & MILA | 2019 - PRESENT

Research Advisors: Doina Precup and William Hamilton

MS BY RESEARCH (THESIS) IN CSE, INDIAN INSTITUTE OF TECHNOLOGY MADRAS | 2015 - 2019

Research Advisor: Balaraman Ravindran

BE IN CSE, ANNA UNIVERSITY CHENNAI | 2009 - 2013

EXPERIENCE

ROBERT BOSCH CENTRE FOR DATA SCIENCE AND AI, DEPT. OF C.S.E, IIT MADRAS

Project Officer: Feb'19 - June'19 & Project associate: Aug'17 - Jan'19 | Supervisor: Prof. Balaraman Ravindran

Project: Network Representation Learning | An IITM-Intel Collaboration

- Built a Network Representation Learning toolkit for both attributed and non-attributed graphs.

R.I.S.E LAB, DEPT. OF C.S.E, IIT MADRAS

Project Associate: July'14 - Aug'17 | Supervisor: Balaraman Ravindran

Project: Wafer data inspection | An IITM-KLA Tencor Collaboration

- Worked on extreme multi-class class-imbalance classification problem to detect defects in semi-conductor wafers.
- Proposed multi-view semi-supervised and active learning strategies to overcome the limited labeled data setup.
- Designed CNNs based shared representation learning architectures to embed Optical and Electron-Microscope Images.

ERICSSON RESEARCH

Research Intern: June'13 - June'14 | Supervisor: Shivashankar Subramanian

- Worked on learning from heterogeneous data sources and built alarm prediction models for Telecom data.

GLOBAL OPERATIONS TEAM | PAYPAL

Intern: Dec'11 | Supervisor: Ms. Bhaduri Raju Naidu

- Developed a web application tool with J2EE and MYSQL for Resource mapping and Reporting

PUBLICATIONS

SEMI-SUPERVISED DEEP LEARNING FOR MULTIPLEX NETWORKS

ACM SIGKDD CONFERENCE ON KNOWLEDGE DISCOVERY AND DATA MINING, KDD'21

A Mitra, [P Vijayan](#), R Sanam, D Goswame, S Parthasarathy & B Ravindran

EGO-GNNS: EXPLOITING EGO STRUCTURES IN GRAPH NEURAL NETWORKS

INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING, ICASSP'21

D Sandfelder, [P Vijayan](#) and W L Hamilton

INFLUENCE MAXIMIZATION IN UNKNOWN SOCIAL NETWORKS: LEARNING POLICIES FOR EFFECTIVE GRAPH SAMPLING [Best Paper Nominee]

INTERNATIONAL CONFERENCE ON AUTONOMOUS AGENTS AND MULTIAGENT SYSTEMS, AAMAS'20

H Kamarathi, [P Vijayan](#), Bryan Wilder, B Ravindran & M Tambe

A UNIFIED NON-NEGATIVE MATRIX FACTORIZATION FRAMEWORK FOR SEMI-SUPERVISED LEARNING ON GRAPHS

SIAM INTERNATIONAL CONFERENCE ON DATA MINING, SDM'20

A Mitra, [P Vijayan](#), S Parthasarathy & B Ravindran

UNDERSTANDING DYNAMIC SCENES USING GRAPH CONVOLUTION NETWORKS

INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS, IROS'20

S Mylavarapu, M Sandhu, [P Vijayan](#), M Krishna, B Ravindran, and A Namboodiri

TOWARDS ACCURATE VEHICLE BEHAVIOUR CLASSIFICATION WITH MULTI-RELATIONAL GRAPH CONVOLUTIONAL NETWORKS

INTERNATIONAL CONFERENCE ON INTELLIGENT ROBOTS AND SYSTEMS, IROS'20

S Mylavarapu, M Sandhu, [P Vijayan](#), M Krishna, B Ravindran, and A Namboodiri

ON INCORPORATING STRUCTURAL INFORMATION TO IMPROVE DIALOGUE RESPONSE GENERATION

NLP FOR CONVERSATIONAL AI WORKSHOP, ACL'20

N Moghe, P Vijayan, B Ravindran, and M Khapra

NETWORK REPRESENTATION LEARNING: CONSOLIDATION AND RENEWED BEARING

ARXIV:1905.00987

P Vijayan*, S Gurukar*, A Srinivasan, G Bajaj, C Cai, M Keymanesh, S Kumar, P Maneriker, A Mitra, V Patel, B Ravindran & S Parthasarathy

HOPF: HIGHER ORDER PROPAGATION FRAMEWORK FOR DEEP COLLECTIVE CLASSIFICATION

STATISTICAL RELATIONAL AI WORKSHOP, IJCAI 2018 | ARXIV:1805.12421

P Vijayan, Y Chandak, M Khapra, S Parthasarathy & B Ravindran

F-GCN: FUSION GRAPH CONVOLUTIONAL NETWORKS

WORKSHOP ON MINING AND LEARNING WITH GRAPHS, KDD 2018 | ARXIV:1805.12528

P Vijayan, Y Chandak, M Khapra, S Parthasarathy & B Ravindran

MULTI-LABEL COLLECTIVE CLASSIFICATION IN MULTI-ATTRIBUTE MULTI-RELATIONAL NETWORK DATA

IEEE/ACM ADVANCES IN SOCIAL NETWORK ANALYSIS AND MINING, ASONAM'14

P Vijayan, S Subramanian & B Ravindran

PATENTS

USER CATEGORIZATION IN COMMUNICATIONS NETWORKS | UNITED STATES 20150236910

Work done during internship at Ericsson R&D | Collaborator: Shivashankar Subramanian

AWARDS AND RECOGNITION

OUTSTANDING REVIEWER: ICLR'20

GRADUATE EXCELLENCE AWARD | 2020

McGill School of Computer Science Ph.D. Fellowship

PANICKER AWARD | 2011-2012

This award is given to the best over-all pre-final year undergraduate student across all departments.

TALKS, CONFERENCES & SUMMER SCHOOLS

INVITED TALKS TRANSITION FROM MACHINE LEARNING -> DEEP LEARNING (MLDLTISP'18), S.V.C.E | 2018

3RD RBCDSAI WORKSHOP ON RECENT PROGRESS IN DATA SCIENCE AND AI | 2018

THINK LIKE A STARTUP SERIES, IITM INCUBATION CELL | 2016

PRESENTATIONS REPRESENTATION LEARNING WORKSHOP, NEURIPS'19

EIGHTH STATISTICAL RELATIONAL LEARNING WORKSHOP, IJCAI 2018

RBC-DSAI WORKSHOP ON RECENT PROGRESS IN DATA SCIENCE & AI, IITM | 2017

MICROSOFT SUMMER SCHOOL ON MACHINE LEARNING, IISC | 2015

DEEP LEARNING SUMMER SCHOOL, IIIT-H | 2016

TEACHING

TEACHING ASSISTANT: COMP596-001: NETWORK SCIENCE (FALL'20)

COMP598-001: INTRODUCTION TO DATA SCIENCE (FALL'20)

COMP767-001: GRAPH REPRESENTATION LEARNING (WINTER'20)

ACM INDIA SUMMER SCHOOL ON DATA SCIENCE (2018)

MISC

PROGRAM COMMITTEE MEMBER: EMNLP'21, SDM'21, GCLR WORKSHOP AAAI'21, NAACL-HLT'21, ADCOM'18, CoDs-COMAD'18

REVIEWER: NEURIPS'21, ICLR'21, NAACL'21, ICLR'20, DMKD JOURNAL, ACL'19

SUB-REVIEWER: AAAI'17, CODS'17 & DSAA'15

FIRST RUNNER UP - IBM THE GREAT MIND TECH QUIZ | 2011 | REGIONAL

CHAIRPERSON | SVCE-ACM STUDENT CHAPTER | 2012-2013