

Sahil Manchanda

Phd Scholar

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EDUCATION

Ph.D , <i>Computer Science</i> , Indian Institute of Technology Delhi, 8.0/10.0	2019-Cont
M.Tech , <i>Computer Science</i> , Indian Institute of Technology Guwahati, 9.14/10.0	2015-2017
B.Tech , <i>Information Technology</i> , Indraprastha University, New Delhi, 78.4%	2010-2014
Senior Secondary , CBSE, New Delhi, 97 %	2010
Secondary , CBSE, New Delhi, 91.8 %	2008

EXPERIENCE

Conduent Labs (Formerly Xerox Research Center) , Bangalore, India Research Engineer, Machine learning and Statistics group	2017-2019
Adobe Systems , Delhi, India Software Engineer, Adobe Acrobat team	2014-2015

PUBLICATIONS AND MANUSCRIPTS

➤ Learning Heuristics over Large Graphs via Deep Reinforcement Learning Akash Mittal*, Anuj Dhawan*, Sahil Manchanda* , Sourav Medya, Sayan Ranu and Ambuj Singh https://arxiv.org/abs/1903.03332 .	2019
➤ SUPAID: A Rule mining based method for automatic rollout decision aid for supervisors in fleet management systems Sahil Manchanda , Arun Rajkumar, Simarjot Kaur and Narayanan Unny https://arxiv.org/abs/2001.03386	2019
➤ Representation learning of drug and disease terms for drug repositioning Sahil Manchanda and Ashish Anand 3rd IEEE International Conference on Cybernetics (CYBCONF), Exeter, United Kingdom	2017

PATENTS

➤ Trained pattern analyzer for roll out decision Status: Filed in USPTO Application ID: 16/375,931 Inventors: Sahil Manchanda , Arun Rajkumar, Simarjot Kaur and Narayanan Unny	2018
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PROJECTS

➤ Learning Heuristics over Large Graphs via Deep Reinforcement Learning <i>Guide: Dr. Sayan Ranu, IIT Delhi</i> <ul style="list-style-type: none">Predict individual quality of nodes using Graph convolution network and identify potential nodes.Deep Q network to predict nodes which collectively form a good solution by using GCN scores and locality of nodes as features.Achieved quality similar to state of the art while being more than 2 orders of magnitude faster.	2019-2020
➤ Graph generative modelling for labelled graphs <i>Data mining course project at IIT Delhi</i> <ul style="list-style-type: none">Extended GraphRNN(NeurIPS 2018) for graph generative modelling for handling node and edge labels.Domain agnostic implementation.	2019

* equal contribution

- **Vehicle Health Monitoring** **2017-2018**
Conduent Labs, Bangalore, India
 - Developed item-set mining based model for recommending rollout of vehicles for a US based fleet agency.
 - The method mines defect patterns which led to failures in the past when fleet supervisors made rollout decision.

- **Mobility Analytics Platform - Descriptive platform for transportation network** **2017-2018**
Conduent Labs, Bangalore, India
 - Developed algorithms for estimating passenger alighting in bus/metro network using check-in data in a flat fare environment.
 - Designed solution to support heterogeneous data -fare collection(paper ticket /smart card) and vehicle location data.
 - Developed various functionalities using fare collection data and GTFS(vehicle schedule) such as estimating direction of vehicles, identification of missing vehicle stop times, alignment of real trips to scheduled trips.

- **Representation learning of drug and disease terms for drug repositioning** **2017**
Guide: Dr. Ashish Anand, Indian Institute of Technology Guwahati
 - Learned word vector representation of drug and disease terms from unstructured bio-medical text(PubMed).
 - Enhanced vector representations using similarity information from structured data such as side-effect based drug similarity and gene based disease similarity etc.
 - Used matrix completion approach to predict drug-disease associations.

KEY COURSES

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| <ul style="list-style-type: none"> ➤ Data Structures and Algorithms ➤ Data Mining ➤ Mathematics for Computer Science ➤ Linear Algebra | <ul style="list-style-type: none"> ➤ Intelligent Systems ➤ Artificial Intelligence ➤ Numerical methods ➤ Probability | <ul style="list-style-type: none"> ➤ Database Management Systems ➤ Mobile robotics ➤ Operating Systems |
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SKILLS

- **Platforms:** Windows, Linux
- **Programming languages:** Python, C, JAVA and C++
- **Libraries:** Numpy, Tensorflow and PyTorch

ACHIEVEMENTS

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| <ul style="list-style-type: none"> ➤ Graduate Aptitude Test in Engineering : All India rank 273 among 115425 candidates. ➤ CBSE Merit certificate : Received Merit Certificates for Computer Science and Mathematics for being in top 0.1 % of the successful candidates all over India. ➤ Merit certificate-National Cyber Olympiad: Secured All India Rank 224. | <p>2015</p> <p>2010</p> <p>2009</p> |
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MISCELLANEOUS

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| <ul style="list-style-type: none"> ➤ Teaching assistant at IIT Delhi - Data Structures and Algorithms. ➤ Subreviewer for ICDE 2020, TKDE 2020, CODS-COMAD 2020. ➤ Student member (M.Tech) of Department Post Graduate Programme Committee , Dept. of CSE, IIT,Guwahati. ➤ Teaching assistant at IIT Guwahati - Mathematics for Computer Science and Introduction to programming. ➤ Android application developer intern at School of Information Technology, Indraprastha University, Delhi. | <p>2019 - cont</p> <p>2016-2017</p> <p>2015-2017</p> <p>2013</p> |
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REFERENCES

- **Dr. Sayan Ranu, Assistant professor, IIT Delhi**
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- **Dr. Narayanan Unny, Director, Big Data Labs, American Express, Bengaluru**
Narayanan.unny@gmail.com
- **Dr. Ashish Anand, Associate professor, IIT Guwahati**
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- **Dr. Arun Rajkumar, Assistant professor, IIT Madras**
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