

Noveen Sachdeva

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Education

UC San Diego

PH.D. IN COMPUTER SCIENCE

Advisor: [Prof. Julian McAuley](#), GPA: 4.0

USA

2020 - PRESENT

IIIT Hyderabad

B.TECH (HONOURS) & M.S IN COMPUTER SCIENCE

Advisor: [Prof. Vikram Pudi](#), GPA: 9.75/10 (M.S)

India

2015 - 2020

Experience

Pinterest Labs

RESEARCH INTERN

San Francisco, CA

Jun. 2021 - Sep. 2021

- Worked with [Dr. Jinyin Zhang](#) & [Dr. Jiajing Xu](#) towards improving the ads quality and ads ranking systems at Pinterest.
- Project involved designing smart negative sampling strategies inspired by the coreset mining and graph-sampling literature, especially for CTR prediction models. Ongoing research was implemented directly in production pipelines, involving mature frameworks like Scalding and Spark.

Microsoft Research

RESEARCH INTERN

Bangalore, India

Jan. 2020 - Jun. 2020

- Worked with [Dr. Manik Varma](#) and his group on building better machine learning algorithms at the million-scale (Extreme Classification).
- Formulated a scalable, GCN-inspired algorithm which exploits label-label correlation patterns to massively improve tail-label performance.
- Full paper accepted for publication at WWW '21.

UC San Diego

RESEARCH ASSISTANT

San Diego, CA

Aug. 2019 - Nov. 2019

- Worked with [Prof. Julian McAuley](#) on aspects of applied machine learning, specifically in the context of NLP and recommender systems.
- Ascertained a highly relevant problem in existing recommender systems that exploit textual reviews for rating prediction, and generalize it.
- Wrote a paper about the realized problem and possible fixes under different scenarios. Paper accepted for publication at SIGIR '20.

Cornell University

RESEARCH ASSISTANT

Ithaca, NY

Jun. 2019 - Jul. 2019

- Worked with [Prof. Thorsten Joachims](#) and his group at the intersection of causal inference, counterfactual learning, and reinforcement learning.
- Contributed to a \$1 Million project ([NSF #1513692](#)) on making off-policy learning from biased, logged contextual-bandit data more robust.
- Formalized a highly relevant problem and generalized different estimators. Paper accepted for publication at KDD '20 (Research Track).

PwC - PricewaterhouseCoopers

DATA SCIENCE INTERN (REMOTE)

Tampa, FL

Aug. 2018 - Nov. 2018

- Worked with the data science and innovation team on clause extraction from sensitive legal documents for top clients in the US.
- Formulated a de-generate pipeline and compared different statistical and deep-learning based models for the given task.
- Reduced task time from days to a few hours which enabled PwC to get new clients in the legal sector.

National Research Council of Italy

RESEARCH ASSISTANT

Rende, Italy

May. 2018 - Jul. 2018

- Worked with senior researcher, [Dr. Giuseppe Manco](#) on building novel and better systems suited for the task of next-item recommendation.
- Devised a taxonomy of VAE models for collaborative filtering, demonstrating huge gains over existing state-of-the-art on real-world datasets.
- The project's findings were later published at top data-mining conference, WSDM '19.

Google Summer of Code

OWNCLOUD

Nürnberg, Germany

May. 2017 - Aug. 2017

- Implemented a JS-library, with exhaustive unit-tests and swagger-documentation, which works both on Node.JS and browser.
- Presented talk at annual ownCloud conference at Nürnberg, Germany. Project led to real-world gains in usage of ownCloud.

UC San Diego & IIIT Hyderabad

- UC San Diego TA for Recommender Systems & Web Mining (CSE258)
- IIIT Hyderabad TA for Database Systems (CSE441), Data Warehousing and Data Mining (CSE445)
- IIIT Hyderabad Web-System Administrator

Fall '21

Spring '19, Fall '18

Fall '17, Spring '18

Publications

On Sampling Collaborative Filtering Datasets

[NOTIFIED]

NOVEEN SACHDEVA, CAROLE-JEAN WU, JULIAN MCAULEY

In the 15th ACM International Conference on Web Search & Data Mining – WSDM '22

SVP-CF: Selection via Proxy for Collaborative Filtering Data

[LINK]

NOVEEN SACHDEVA, CAROLE-JEAN WU, JULIAN MCAULEY

In the SubSetML Workshop @ 38th International Conference on Machine Learning – ICML '21

ECLARE: Extreme Classification with Label Graph Correlations

[LINK]

ANSHUL MITTAL, NOVEEN SACHDEVA, SHESHANSH AGRAWAL, SUMEET AGARWAL, PURUSHOTTAM KAR, MANIK VARMA

In The Web Conference 2021 – WWW '21

Off-policy Bandits with Deficient Support

[LINK]

NOVEEN SACHDEVA, YI SU, THORSTEN JOACHIMS

In the 26th ACM SIGKDD Conference on Knowledge Discovery and Data Mining – KDD '20 (Research Track)

How Useful are Reviews for Recommendation? A Crit. Review & Potential Improvements

[LINK]

NOVEEN SACHDEVA, JULIAN MCAULEY

In the 43rd International ACM Conference on Research and Development in Information Retrieval – SIGIR '20

Sequential Variational Autoencoders for Collaborative Filtering

[LINK]

NOVEEN SACHDEVA, GIUSEPPE MANCO, ETTORRE RITACCO, VIKRAM PUDI

In the 12th ACM International Conference on Web Search & Data Mining – WSDM '19

Attentive Neural Architecture Incorporating Song Features For Music Recommendation

[LINK]

NOVEEN SACHDEVA, KARTIK GUPTA, VIKRAM PUDI

In the 12th ACM International Conference on Recommender Systems – RecSys '18

Explicit Modelling of the Implicit Short Term User Preferences for Music Recommendation

[LINK]

KARTIK GUPTA, NOVEEN SACHDEVA, VIKRAM PUDI

In the 40th European Conference on Information Retrieval – ECIR '18

Achievements

- PC for TheWebConf '22, ICWSM '22
- Reviewer for ICDM '18, AAAI '19, KAIS '19,20, ICWSM '21
- Received generous travel grant from ACM to present paper at The Web Conference
- Mentoring a group of *four* brilliant undergraduates at UC San Diego
- Awarded the Jacobs School of Engineering Fellowship at UC San Diego
- Received generous travel grant from SIGIR to present paper at SIGIR
- Received generous travel grant from SIGIR & Flipkart to present paper at WSDM
- Qualified for ACM-ICPC Asia Onsite Regionals. *Online: 95th, Onsite: 120th*
- Dean's Research Award for exceptional undergraduate research work at IIIT Hyderabad
- Dean's Award for Academic Excellence: Top 10% of batch
- Mentor for Google Code-In at JBoss, RedHat

2021
2020-22
2020
2020
2019
2019
2018
2018
2018
2017

Skills

Languages	Python, Scala, C++, C, Bash, MATLAB
Machine Learning	PyTorch, Tensorflow, Keras, scikit-learn
Miscellaneous	TEX, Scalding, Spark, Git, SQL, Neo4J, Flask, Node.JS, PHP