Noveen Sachdeva

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Education ───────────────────────────────

UC San Diego *USA*
PH.D. IN COMPUTER SCIENCE *2020 - PRESENT*
Advisor: Prof. Julian McAuley , *GPA:* 4.0

IIIT Hyderabad *India*
B.TECH (HONOURS) & M.S IN COMPUTER SCIENCE *2015 - 2020*
Advisor: Prof. Vikram Pudi , *GPA:* 9.75/10 (M.S)

Experience ──────────────────────────────

Netflix Research *Los Gatos, CA*
RESEARCH INTERN *Jun. 2022 - Sep. 2022*
- Will work with Dr. Dawen Liang towards scaling up off-policy learning.

Pinterest Labs *San Francisco, CA*
RESEARCH INTERN *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 *Bangalore, India*
RESEARCH INTERN *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 *San Diego, CA*
RESEARCH ASSISTANT *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 *Ithaca, NY*
RESEARCH ASSISTANT *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 *Tampa, FL*
DATA SCIENCE INTERN (REMOTE) *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 *Rende, Italy*
RESEARCH ASSISTANT *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 *Nüremberg, Germany*
ownCloud *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 Nüremberg, Germany. Project led to real-world gains in usage of ownCloud.

Publications

On Sampling Collaborative Filtering Datasets *[LINK]*

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, ETTORE 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

- Gave a talk at Meta AI Research — *2022*
- 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 — *2021*
- Mentoring a group of *four* brilliant undergraduates at UC San Diego — *2020-22*
- Awarded the Jacobs School of Engineering Fellowship at UC San Diego — *2020*
- Received generous travel grant from SIGIR to present paper at SIGIR — *2020*
- Received generous travel grant from SIGIR & Flipkart to present paper at WSDM — *2019*
- Qualified for ACM-ICPC Asia Onsite Regionals. *Online:* 95th, *Onsite:* 120th — *2018*
- Dean's Research Award for exceptional undergraduate research work at IIIT Hyderabad — *2018*
- Dean's Award for Academic Excellence: Top 10% of batch — *2018*
- Mentor for Google Code-In at JBoss, RedHat — *2017*

Skills

Languages	Python, Scala, C++, C, Bash, MATLAB
Machine Learning	JAX, PyTorch, Tensorflow, Scalding, Spark
Miscellaneous	LaTeX, Git, SQL, Neo4J, Flask, Node.JS, PHP