SONU MEHTA
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EDUCATION

INDIAN INSTITUTE OF TECHNOLOGY, DELHI — Delhi, India
PhD Candidate in Computer Science and Engineering **(GPA: 9.32/10.0)** — 2021-Present
- Advisor: Manik Varma and Rahul Garg
- I focus on developing efficient training strategies for deployable Extreme Classification (XC) algorithms.

HARVARD UNIVERSITY — Cambridge, MA, USA
S.M. (Master of Science), Computational Science and Engineering — 2016-2017
- Graduated at the top of my class with **GPA 4/4**
- Cross-registered with **MASSACHUSETTS INSTITUTE OF TECHNOLOGY(MIT)** for Machine Learning

INDIAN INSTITUTE OF TECHNOLOGY, JODHPUR — Jodhpur, India
Bachelor of Technology, Computer Science and Engineering — 2011-2015
- Graduated at the **top** of my class (150) with **GPA 9.95/10**
- Nominated for the best B. Tech project for the final year

AISSCE (ALL INDIA SENIOR SCHOOL CERTIFICATE EXAMINATION) — Jodhpur, India
Central Board of Secondary Education (CBSE), Delhi Public School, Jodhpur — 2010
- Scored **95.6%** securing position in **TOP 10** students in India

Secondary Examination — India
Rajasthan Board of Secondary Education (RBSE) — 2008
- Scored **94.17%** securing **11th merit position** amongst 900,000 students.

EXPERIENCE

MICROSOFT RESEARCH INDIA LAB
Senior Research Software Engineer/ Director Intern Program — Jun 2021-Present
- Developed end-to-end trained XC algorithm ASTRA, which led to 15x reduction in training time with less than 1% loss in accuracy. Deployed this model in production with significant revenue gains and filed a patent for the same.

Research Software Engineer II — Feb 2018-Jun 2021
- Built end-to-end system (REX) for detecting misconfigurations using correlated change analysis which has been deployed to 100,000 repositories within Microsoft. The model helped detect 5000 misconfigurations in 10 months.
- Developed Test-Selection Models for 22 large scale services within Microsoft that could save 15-30% COGS.

MICROSOFT INDIA DEVELOPMENT CENTER (R&D)
Software Engineer (Machine Learning) in Bing Ads Team — Jul 2017-Feb 2018
Improved models for click prediction and deployed the improved version to the second largest market for Bing outside the US.
Software Engineer in System Centre Virtual Machine Manager Team — Jun 2015-Jul 2016
- Implemented allocation of cloud storage for different tenants from the same pool for Hyperconverged System.
- Worked on Windows Storage Replica and Quality of Service, two important features of SCVMM-Storage 2016.

HARVARD UNIVERSITY
Teaching Fellow (TF) — Aug 2016-May 2017
Worked as TF for graduate course-Systems Development for Computational Science and undergrad course-Biomedical Engineering.

MICROSOFT INDIA (R&D) – Internship
Software Engineering Intern — May 2014-Jul 2014
- Developed Azure Mobile Services Adapter for Biztalk Services along with a demo app.

ACADEMIC ACHIEVEMENTS

- *REYA (Recognition of Excellence in Young Alumni)* in Academics & Research category in 2021 at IIT Jodhpur
- Finalist for the WomenTech Network *Rising Star in STEM of the Year Global Award 2020*
- *President's Gold Medal* for the best academic performance amongst all engg. streams of the undergraduate program at IITJ.
- *Proficiency Medal* for the best academic performance in Computer Science and Engineering stream at IIT Jodhpur
- *Academic Excellence Award* for the best academic performance for the first three consecutive years in B.Tech.

- *Silver Medal* for securing 11th position in the top 15 out of 900,000 students in secondary examination 2008.
- *Best Student* of the year 2008 awarded to the student with the best overall performance.
- *Brilliant Student* Award by Hon'ble Pratibha Patil (Ex. President of India) in the year 2006.

PUBLICATIONS

- **Enhancing Tail Performance in Extreme Classifiers by Label Variance Reduction**
  Anirudh Buvanesh, Rahul Chand, Jatin Prakash, Bhawna Paliwal, Mudit Dhawan, Neelabh Madan, Deepesh Hada, Vidit Jain, **Sonu Mehta**, Yashoteja Prabhu, Manish Gupta, Ramachandran Ramjee, Manik Varma
  *International Conference on Learning Representations (**ICLR**), 2024*

- **Deep Encoders with Auxiliary Parameters for Extreme Classification**
  Kunal Dahiya, Sachin Yadav, Sushant Sondhi, Deepak Saini, **Sonu Mehta**, Jian Jiao, Sumeet Agarwal, Purushottam Kar, Manik Varma
  *ACM SIGKDD Conference on Knowledge Discovery and Data Mining (**KDD**), 2023*

- **NGAME: Negative Mining-aware Mini-batching for Extreme Classification**
  Kunal Dahiya, Nilesh Gupta, Deepak Saini, Akshay Soni, Yajun Wang, Deepesh Hada, Vidit Jain, Bhawna Paliwal, Anshul Mittal, **Sonu Mehta**, Ramachandran Ramjee, Sumeet Agarwal, Purushottam Kar, Manik Varma
  *ACM International Conference on Web Search and Data Mining (**WSDM**), 2023*

- **Data-driven test selection at scale**
  Sonu Mehta, Farima Farmahinifarahani, Ranjita Bhagwan, Suraj Guptha, Sina Jafari, Rahul Kumar, Vaibhav Saini, Anirudh Santhiar
  *European Software Engineering Conference and Symposium on the Foundations of Software Engineering (**FSE**), 2021*

- **Learning Patterns in Configuration**
  Ranjita Bhagwan, **Sonu Mehta**, Arjun Radhakrishna, Sahil Garg
  *International Conference on Automated Software Engineering (**ASE**), 2021*

- **Rex: Preventing Bugs and Misconfiguration in Large Services Using Correlated Change Analysis**
  Sonu Mehta, Ranjita Bhagwan, Rahul Kumar, Chetan Bansal, Chandra Maddila, Balasubramanyan Ashok, Sumit Asthana, Christian Bird, Aditya Kumar
  *USENIX Symposium on Networked Systems Design and Implementation (**NSDI**), 2020*

- **WhoDo: automating reviewer suggestions at scale**
  Sumit Asthana, Rahul Kumar, Ranjita Bhagwan, Christian Bird, Chetan Bansal, Chandra Maddila, **Sonu Mehta**, B Ashok
  *European Software Engineering Conference and Symposium on the Foundations of Software Engineering (**FSE**), 2019*

- **Assessing the Effectiveness of Syntactic Structure to Learn Code Edit Representations**
  Syed Arbaaz Qureshi, **Sonu Mehta**, Ranjita Bhagwan, Rahul Kumar
  arXiV, 2021

PATENTS

- **Accurate and Scalable Approximate Nearest Neighbour Search (ANNS)-based Training of Extreme Classifiers**
  US Patent App. 18/733,403, applied on 2024/4/12

- **Pattern base configuration verifier**
  US Patent 11,977,606, issued 2024/5/7

- **Detecting misconfiguration and/or bug (s) in large service (s) using correlated change analysis**
  US Patent 11,599,354, issued 2023/3/7.

SERVICE

Reviewer*:* NeuRIPS 2024*,* KDD 2024, SDM 2024, KDD 2023, AI-ML Systems 2022, MSR 2021, ISEC 2020