

Mohit Mehta

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Education

- Sept 2022 - **New York University**
May 2024 Master of Science(MS) in Computer Science, GPA: 3.83/4
Relevant Coursework: Machine Learning, Deep Learning, Big Data, Operating Systems, Data Structures and Algorithms
- Aug 2018 - **Indian Institute of Technology Indore**
May 2022 Bachelor of Technology in Electrical Engineering, GPA: 8.74/10

Experience

- May 2023 - **Data Science Intern, Ploomber (Y Combinator)** [↗](#)
Aug 2023
 - Added debugging and profiling capabilities such as runtime analysis to Jupyter Notebook executor in Ploomber[GitHub]
 - Added support for MSSQL and DuckDB along with bar and pie charts to Jupyter SQL magics in Jupysql[GitHub]
 - Reduced Python package development time by 1.6x by optimizing the workflows and CI/CD using GitHub Actions
- Mar 2023 - **Graduate Research Assistant, AI4CE Lab, New York University**
Jun 2023
 - Researched 3D object reconstruction and Neural Radiance Fields(NeRF) with focus on optimizing camera trajectory
 - Deployed deep learning models in PyTorch3D to NYU Greene HPC with Slurm, specializing in 3D object processing
- May 2021 - **Research Assistant, Indian Institute of Technology, Indore, India** [↗](#)
Jun 2022
 - Developed a virtual world using Webots(in Python), SUMO, and MATLAB featuring autonomous vehicles(AV) in an urban city, with the primary goal centered around selecting an optimal 5G telecommunication tower for AV
 - Developed an ETL Pipeline in Python to collect and process vehicular data and 3D LiDAR scans from the simulation
 - Developed a Google Inception based deep CNN in PyTorch for LiDAR scans with (1/30) parameters as that of the state-of-the-art for faster prediction and inference, while also enhancing user privacy with federated learning

Projects

- April 2023 - **Forest Fire Tracker(Big Data)** [↗](#)
May 2023
 - Simulated forest fires with over 11,000 trees in Unity with real-time tracking of fire line done using OpenCV and Dask
 - Coordinated multiple services using Kafka with storage optimization done using Redis and live dashboard using dash
- Aug 2021 - **ITU AI/ML in 5G Challenge** [↗](#)
Dec 2021
 - Explored and tested various deep reinforcement learning techniques such as Deep Q Networks and Actor-Critic for beam scheduling and user selection in an urban simulated world for a 5G mmWave wireless environment
 - Created an intrinsic curiosity module in PyTorch for sparse rewards resulting in 5% reward improvement[Publication]
- Oct 2020 - **Multimodal Ticket Enrichment** [↗](#)
Mar 2021
 - Retrieved and processed visual questions from community StackExchange forums with the help of Pandas and NLTK
 - Devised a multi-modal deep neural network to find semantically similar visual questions using BERT and ResNet, achieving an area under the curve(AUC) of 92.76% over established 87.6% with the help of PyTorch and HuggingFace

Publications

ITU-JFET'22 Simultaneous beam selection and users scheduling evaluation in a virtual world with reinforcement learning [↗](#)

Achievements

- Dec 2021 **Led the team to 2nd place finish** in the ITU AI/ML in 5G Challenge 2021 [↗](#)
Mar 2020 **Advanced to Semi-Finals and acted as Team Leader** for E-Yantra Robotics Competition 2019-2020.

Skills

Programming Python, SQL, C++, MATLAB, Java | Linux

Big Data Dask, Apache Spark, Hadoop, MongoDB, Kafka, Redis, Hive

AI/ML PyTorch, Tensorflow, JAX, PyTorch3D, HuggingFace, Scikit-Learn, AWS SageMaker

Frameworks AWS, Docker, Blender, Flask, Git, GitHub, GitHub Actions, Slurm, ROS