

# Harsh Mishra

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## SUMMARY

Computer Science Masters with 2 years of Industry experience as a Systems and Software Engineer at Hewlett Packard Enterprise. Experienced in automating infrastructure and deployment using CI/CD, Data Engineering, application of Machine learning algorithms and Data Visualization.

## EDUCATION

**University of Illinois at Chicago (UIC)** - *Master of Science in Computer Science*; Chicago, IL; August 2021 - May 2023; GPA: 3.85/4.0

**People's Education Society University, (PESU)** - *Bachelor of Technology in Computer Science and Engineering*; Bangalore, India; August 2015 - May 2019; GPA: 8.08/10.0

## PROGRAMMING SKILLS

**Proficient:** Python, C, R, Ansible, SQL

**Familiar:** Scala, Java, PowerShell, Matlab, Javascript, D3.js

**Application/Software:** Tableau, Docker, AWS (S3, Lambda, EMR, EBS, SageMaker, Kinesis), Hugging Face

## LABORATORY WORK

**Computer Science Department, UIC** September 2021 – December 2022, *Research Assistant*

- Trained Score based Generative Models using non-Gaussian noise. The paper was selected for poster presentation at the MMLS 2023 conference. Preprint available on [arxiv](#).
- Developed an algorithm to convert categorical labels/features to continuous labels, enabling the use of kernel methods for node classification and other GNN tasks. Experiments on Event Stream and Pose Estimation data available on [github](#).
- Co-authored a paper on using optimization-based training methods in distributed Machine Learning settings to overcome byzantine worker problems. Preprint available on [arxiv](#).

## WORK EXPERIENCE

**Hewlett Packard Enterprise (HPE)** - *Systems and Software Engineer*; Bangalore, India; July 2019 – July 2021

- Developed scripts to automate the deployment of MLOps as a Service offering. Used REST APIs to mimic deprecated PowerShell functions in Python and used Ansible for automated deployment.
- Simulated cyber threat patterns using graph databases in Neo4j, and wrote SQL queries to detect such patterns.

## INTERNSHIP EXPERIENCE

**Hewlett Packard Enterprise (HPE)** - *Software Engineering Intern*; Bangalore, India; January 2019 – July 2019,

- Developed and deployed a DataOps pipeline using open source applications, and wrote bash scripts to automate the CI/CD pipeline.

## PROJECTS

**ETL Pipeline** - Built an end to end Log Analysis Pipeline. AWS EBS - continuously generate logs, Kafka - real time streaming, Hadoop Spark & MapReduce - data crunching, D3.js - dynamic visualization of results. (Scala) - [Code](#)

**Data Visualization** - Used all the stages of SDLC to come up with different ways to visualize amino acid data. The visualization provides the user to dynamically interact with the 3D structure of the protein and also shows various other properties & interrelations in the amino acid sequence. (D3.js, JS) - [Code](#)

**Causal Inference** - Developed a causal analysis pipeline to identify factors that influenced public sentiment during the COVID-19 pandemic. The experiments provide comparison between various structure finding algorithms used to find causal graphs and then utilizes Bayesian Networks to find the conditional probabilities. (Python) - [Code](#)