

# PALAK TANWAR

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## EDUCATION

### Northeastern University, Boston, MA

Master of Science in Data Analytics Engineering

• Data Management • Data Analytics Engineering • Computation and Visualization for Analytics • Advanced Algorithms

May 2027

GPA 4.0/4.0

### Thapar Institute of Engineering & Technology, Patiala, India

Bachelor of Engineering in Computer Engineering

• Artificial Intelligence • Parallel and Distributed Computing • Image Processing • Operating Systems

Jun 2019

GPA 7.42/10.0

## SKILLS

**Programming & Databases:** Python, R, SQL (MySQL), C, C++

**Data Analysis & ML:** Pandas, NumPy, scikit-learn, PCA, clustering, regression, MATLAB

**Visualization & Tools:** Tableau, Power BI, Jupyter Notebook, Git

## WORK EXPERIENCE

### Chaitanya Charitable Trust, Gujarat, India

#### Data Analyst & Strategist

Jun 2020 – Jul 2024

- Led on field surveys, engaging with over 1000 locals to understand the problems faced by the community and present data driven insights to provide targeted solutions
- Developed ETL pipelines and conducted exploratory data analysis on survey data and identifying economic challenges faced by the community
- Designed detailed reports using data visualization tools to track campaign performance, and using generated insights to make strategic adjustments, leading to an increase of 35% in audience reach
- Collaborated directly with local communities encouraging active involvement in campaigns, enhancing campaign participation by 30%

### Trident Analytical Solutions Pvt. Ltd., Noida, India

#### Business Analyst (Part-Time)

May 2022

- Organized stakeholder meetings to analyse business requirements, address project challenges, and streamline workflows
- Designed detailed and automated reports using MS Excel, Power BI that led to improvement in project efficiency by uncovering insights
- Facilitated cross functional team communication by acting as liaison between business and technical teams, resulting in better decision making and achieving faster project deliveries

## PROJECTS

### Mental Health Access & Usage Patterns | Data-Driven Insights

April 2025

- Utilized Python (Pandas, NumPy), Seaborn, and Matplotlib to analyze 10,000+ Household Pulse Survey records across demographic groups and time periods
- Implemented data preprocessing techniques including missing value imputation, categorical encoding, and feature engineering to prepare datasets for analysis
- Applied time series and correlation analysis to uncover trends in medication usage and disparities in mental health care access
- Designed visualizations (distribution plots, heatmaps, demographic breakdowns) to effectively communicate findings to stakeholders

### MIMIC-III Patient Data Insights | Healthcare Analytics

Feb 2025

- Conducted data cleaning and exploratory data analysis on real world medical data of CCU patients extracted from Metavision and CareVue monitors (MIMIC-III)
- Optimised clustering accuracy by leveraging Principal Component Analysis and t-SNE reducing dimensionality and preserving the most important data
- Successfully implemented K-means and Hierarchical Clustering to segment data into clusters and analyse similarities between data points
- Visualised clustering results using Seaborn and Matplotlib, by utilizing scatter plots, pair plots, heatmaps and dendograms
- Implemented predictive modelling using Logistic Regression to forecast patient readmission based on their medical history