VED SHUKLA

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EDUCATION

New York Institute of Technology *M.S. in Data Science (GPA – 3.8)* *Sept 2023 – May 2025*

Relevant Coursework: Data Structure and Algorithm, Optimization Methods for Data Science, Machine Learning, Deep Learning, Data Base Management Systems, Artificial Intelligence, Statistical Concepts for Data Science.

SKILLS

Programming Languages	Python, R language, SQL, C, C++, SQL
Tools	SQL (DDL & DML), NumPy, Pandas, SciKit Learn, Matplotlib, Seaborn, Vega-Altair, Beautiful Soup
IDE	Anaconda, GIT, PyCharm, VS Code
ML Models	Linear regression, Logistic regression, Decision tree, KNN algorithm, K-means, Random Forest
Data Visualization Tools	Tableau, Power BI
Database	MySQL, PostgreSQL
MS Skills	Excel, Word, Power Point
Organizational Skills	Perseverance, Attention to detail, Communication, Multitasking, Problem Solving, Team work

WORK EXPERIENCE

Data Analyst [Academic Technology Services – New York Tech] *June 2024 –Present*

- Designed and implemented **ETL pipelines** using **PostgreSQL and Python (Pandas, Matplotlib)** to integrate diverse datasets, ensuring data accuracy and consistency for monitoring attendance, surveys, and performance metrics.
- Utilized **Tableau** to create real-time visualizations, providing actionable insights that supported data-driven strategic planning and improved performance outcomes. Automated data transformations and reporting workflows with **DBT** to enhance efficiency.
- Leveraged **GitHub for version control** during preliminary and developmental stages of project building, enhancing collaboration and safeguarding the learning management system's codebase for the project manager.
- Developed **Functional Requirements Documentation (FRD)** to ensure system capabilities aligned with stakeholder needs and organizational objectives, finalizing the project for seamless implementation.

Graduate Assistant [Academic Success and Enrichment – New York Tech] *January 2024 –Present*

- **Data Analysis & Reporting**: Collected and analyzed weekly tutoring data using Slate interface queries and visualized key insights through Tableau dashboards for informed decision-making.
- **Departmental Representation**: Represented the department at various academic and student engagement events, fostering relationships and enhancing departmental visibility.
- **Supplemental Instructor Project Management**: Led the hiring, scheduling, and coordination of student tutors, ensuring timely completion of coursework, attendance tracking, lesson plan management, and continuous feedback between students and tutors.
- **Tutor Scheduling & Availability**: Managed tutor schedules and personalized tutoring sessions, optimizing availability through Slate for efficient student support.
- **Process Documentation**: Developed and maintained Slate queries for streamlined data collection, creating instructional videos and photo documentation for future reference and continuity.
- Redesigned the departmental website, enhancing aesthetics with a clean, modern layout and improving content management for better user experience and accessibility.

Graduate Assistant [Career Success and Experiential Education – New York Tech] *January 2024 –May 2024*

- Streamlined paperwork procedures by implementing standardized protocols and personally guiding students through the process, effectively alleviating administrative processes while enhancing service delivery.
- Tailored career advising, enhancing student profiles for a professional presence. Conducted workshops and presentations on resumes, cover letter writing, career guidance, and LinkedIn optimization, boosting student employability rates.

R&D Machine Design Engineer [Endlos Innovations Pvt Ltd] *June 2022 –June 2023*

- Drove research and development initiatives focused on machine modeling, mechanism design, and aesthetic optimization within the Solid Waste Management and healthcare sectors. Led CAD part and assembly design, prototyping, testing, and problem analysis efforts, resulting an increase in prototype efficiency.
- Orchestrated calibration of prototype models with sensors, motors, and cameras utilizing Raspberry Pi version 3, enhancing functionality by 30%.
- Produced meticulously detailed part and assembly drawings tailored for manufacturing and assembly requirements, ensuring a 20% reduction in production time.

PROJECTS

Watershed Water Quality Analysis Project

- Performed **data preprocessing and cleaning on a 3,600+** row dataset, including **converting categorical values, handling outliers, and binning data** by season to prepare for advanced analysis.
- Implemented clustering algorithms **(Agglomerative Clustering with PCA)** to **identify seasonal patterns**, providing data-driven insights for optimizing water resource management.
- Developed predictive models using **Random Forest Regression and ANN**, achieving >95% accuracy in forecasting 24-hour turbidity levels, significantly aiding in water quality monitoring.

Mobile User Behavior Analysis

- Performed **data preprocessing** and **feature engineering** on a **simulated dataset, including binning, encoding, and scaling**, to ensure optimal model performance.
- Developed **K-means clustering and Apriori association rule models**, identifying key user behavior patterns and relationships in mobile device usage with high confidence.
- Designed and implemented a **Decision Tree classifier, achieving 80%** accuracy in predicting **user behavior classes based on battery drain, screen-on time, and demographic features.**

Job Market Insights and Predictions using Machine Learning:

- Spearheaded a project analyzing **job market trends** and forecasting **future skill demand**, providing actionable insights for job seekers and employers.
- Performed data analysis and employed machine learning algorithms, including **Linear Regression for salary prediction, K-Nearest Neighbors (KNN) for text classification, K-Means Clustering for segmenting the job market, and Collaborative Filtering for personalized** job recommendations.
- Showcased insights through **data visualization using Matplotlib, Plotly, and Tableau**, enhancing job market transparency and efficiency.

Easy Logistic:

- Designed a **logistic supply chain management system** using SQL for database management, **leveraging CTEs** for efficient data querying and analysis. Utilized both **Data Definition Language (DDL)** and **Data Manipulation Language (DML)** operations.
- Created an **Entity-Relationship (ER)** diagram to model the database structure, ensuring efficient storage and retrieval of logistic data.
- Streamlined **logistic operations and improved workflow** efficiency through the implementation of a user-friendly and scalable database system.

LEADERSHIP & EXTRA-CURRICULAR

- Organized and took lectures on SQL and Data Science Pipelines representing the 'College of Engineering' Department at New York Tech.
- Orientation Leader: Led orientation sessions for new students, guiding them through academics and campus resources while fostering a welcoming environment.
- As President of the Data Science Club, organized events and workshops, increasing membership by 40% and promoting hands-on learning.