# Nandini Bhusanurmath

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## SUMMARY

- Skills: **Python**, Pandas, **Advanced SQL**, SAS, R language, **Machine Learning Algorithms**, Visualization: **Tableau, Power BI**, Seaborn, Matplotlib; **ETL tools**: Kafka, Spark, Airflow, AWS Glue, S3, Redshift, Scikit-Learn, NLP Techniques, Statistics, Data Science, Snowflake, EDA Analysis, Data Engineering, Data Lake, Data Warehouse concepts.

## EDUCATION

New York Institute of Technology, Manhattan, NY — **MS in Data Science(GPA 3.85/4.0)** — Jan 2022 - Dec 2023

Visvesvaraya Technological University, KA, India — **B.E in Computer Science(GPA 3.23/4.00)** — Aug 2016 - Aug 2020

## EXPERIENCE

**Data Engineer, SprintPark LLC** — Aug 2024 – Present

Remote - USA

- Designed and implemented a Data Lake Architecture for a healthcare provider, enabling efficient data ingestion, storage, and processing of large volumes of medical data (patient records, diagnostic reports).
- Built data pipelines using Apache Spark and Kafka to ingest real-time streaming data from multiple healthcare systems into an AWS-based Data Lake.
- Developed ETL processes to clean, transform, and load data into a central repository for analytics and machine learning purposes.
- Improved data accessibility for analysts and reduced query response time by 40%, leading to faster data-driven decision-making in clinical workflows.

**Data Scientist, BCG X GenAI Job Simulation on Forage** — Jul 2024 - Aug 2024

- Successfully developed an AI-powered financial chatbot for BCG's GenAI Consulting team, demonstrating advanced skills in Python and pandas for data manipulation.
- Effectively integrated and interpreted complex financial data from 10-K and 10-Q reports.
- Used rule-based logic to contribute to the development of an AI chatbot designed to handle financial queries.

**Application Developer, VFI SLK Global Services PVT LTD** — Jan 2021 - Jan 2022

Bangalore, Karnataka, India

- Spearheaded three major application releases, successfully upgrading commission calculation software in the retirement services domain on Mainframe and Linux environments, significantly enhancing customer experience and meeting all deadlines.
- **Utilized Power BI dashboards** to track key performance metrics and system enhancements, enabling real-time insights and driving data-driven decisions, contributing to a 40% reduction in software issues.
- **Led comprehensive cycle testing and performance optimization**, resulting in improved software functionality, reduced bugs, and a more seamless user experience through enhanced visualization and reporting tools.

**Machine Learning Intern, Procode Tech** — Jun 2016 - Sept 2016

Bangalore, Karnataka

- Developed and deployed Machine Learning models to analyze sentiments in a Twitter dataset, leveraging advanced NLP techniques to drive a **35% increase in customer engagement** through strategic insights**.**
- Enhanced sentiment classification efficiency and accuracy by utilizing Python libraries such as NLTK and scikit-learn, streamlining the analysis of large datasets.
- Delivered impactful visualizations, including word clouds and sentiment trend graphs, using Matplotlib, Seaborn, and WordCloud, which effectively communicated key insights and supported data-driven decision-making.

## PROJECTS

**ETL Pipeline for Google Books API** — Jun 2024 - Aug 2024

- Developed an automated ETL pipeline using **Apache Airflow** and **Python** to extract, transform, and load book data from the Google Books API into a structured CSV format.
- This daily-scheduled pipeline demonstrates expertise in **data extraction**, **transformation**, and **database management**, efficiently handling large datasets and enabling the generation of actionable insights.

**Sentiment Analysis with Deep Learning using BERT** — Aug 2024 - Sept 2024

- Completed Coursera's project, where I fine-tuned a **BERT model** for sentiment classification and utilized Hugging Face Transformers for advanced NLP techniques.
- Developed and implemented training and evaluation loops to monitor model performance, enhancing my expertise in deep learning and natural language processing. Gained hands-on experience with data preparation, **model optimization**, and performance evaluation.

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## Personal Statement

Throughout my academic and professional journey, I have been driven by an insatiable curiosity to understand complex systems and extract meaningful insights from data. This passion has led me to pursue opportunities that intertwine data science, engineering, and societal impact. My experiences have shaped my aspirations and fostered a commitment to applying advanced analytical techniques to solve real-world problems. I am eager to continue this journey at Columbia Engineering, where I can hone my expertise and contribute meaningfully to the community.

My fascination with data science began during my undergraduate studies in Information Science and Engineering. While excelling in courses such as Programming, Optimization Methods, and Statistics, I realized the transformative potential of data in addressing global challenges. This realization motivated me to further my education by pursuing a Master's in Data Science, where I engaged deeply with machine learning, big data technologies, and artificial intelligence. Each course and project reinforced my belief in the power of data-driven solutions to make informed decisions.

Among my most fulfilling projects was a sentiment analysis initiative using BERT, which involved fine-tuning models for high accuracy on unstructured data. The project not only honed my technical skills in deep learning but also taught me the importance of ethical considerations in AI. Another highlight was developing a Nutritional Goal Optimization System that employs linear programming to recommend recipes meeting personalized dietary requirements. These experiences have cemented my commitment to leveraging data science for impactful applications, from health optimization to societal well-being.

My professional growth has been further enriched by my hands-on involvement in projects such as analyzing NYPD complaint data to uncover trends in law enforcement accountability. This required extensive data wrangling and visualization, showcasing my ability to extract actionable insights from complex datasets. Additionally, my work on recipe recommendation systems and clustering based on nutritional composition allowed me to explore diverse applications of machine learning, underscoring the versatility of data science in addressing unique challenges.

Columbia Engineering’s commitment to innovation and interdisciplinary collaboration aligns seamlessly with my aspirations. The program’s emphasis on applying theoretical knowledge to practical challenges excites me, as I am eager to deepen my understanding of advanced machine learning techniques, optimization algorithms, and scalable systems. The opportunity to learn from renowned faculty and collaborate with a diverse cohort will undoubtedly broaden my perspective and elevate my skill set.

Post-graduation, I aim to work at the intersection of academia and industry, contributing to the development of ethical AI systems and leveraging data science to tackle pressing global issues. My goal is to lead research initiatives that advance the frontiers of responsible computing, with a particular focus on fairness, transparency, and privacy in AI systems.

Joining Columbia Engineering is not merely an academic pursuit; it is a pivotal step toward realizing my vision of creating impactful, data-driven solutions that benefit society. I am confident

that the program's rigorous curriculum, vibrant community, and access to cutting-edge resources will empower me to make meaningful contributions and achieve my professional aspirations.

Thank you for considering my application. I am excited about the possibility of joining Columbia Engineering and contributing to its legacy of excellence.