Rakesh Koneru
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Professional Summary:

Accomplished data mining and analytics specialist with over 5 years of expertise in analytics, business intelligence, and data-driven decision-making, complemented by 12+ years of experience in industrial products sales and business strategy. Proficient in SQL, Python, and advanced data visualization tools such as Tableau and Power BI. Demonstrated success in predictive analytics, process optimization, and executive-level communication. Skilled in solving complex problems, driving actionable business insights, and enhancing operational efficiency through data. Recognized for strategic thinking, technical proficiency, and a strong ability to translate data into impactful business outcomes.

Analytics Experience Summary:

- Over 5 years of extensive experience in preparing business intelligence reports, sales data analysis, funnel management, and optimization techniques in the manufacturing industry, including creating dashboards for executive-level presentations.
- Extensive knowledge and practical application of software development life cycle (SDLC), Agile, Scrum, UML, Waterfall, and various project management methodologies within the manufacturing industry.
- Proficient in using MDX and DAX queries to retrieve data from Analysis Services Cubes for advanced data analysis and business intelligence.
- Expert in utilizing Power BI Desktop and Service to create and explore various types of reports and dashboards, including tabular, matrix, and ad hoc reports, and presenting them using Story Points.
- Created, maintained, and scheduled SQL datasets and reports in Power BI, and managed ad-hoc reporting.
- Extracted and analyzed data using Power Query, PivotTables, MS Excel, Power BI, and SSAS.
- Migrated existing data into Power BI and performed data cleaning, validation, and analysis using Data Analysis Expressions (DAX).
- Used DAX functions to create calculations and measures in Tabular Models and enhanced reports with visual elements such as charts and graphs.
- Extensive hands-on experience with SQL and Transact-SQL, including creating tables, stored procedures, triggers, user-defined functions, views, indexes, user profiles, and relational database models.
- Skilled in developing custom and parameterized reports and distributing them in multiple formats using Power BI.

Professional Skills:

- **Analytics & Data Science:**
  - **SQL:**
    - Advanced SQL querying and relational database management (Redshift, MySQL, Oracle, SQL Server).
    - Data warehousing, ETL processes, and database design.
    - Data integrity, security, and normalization.

- **Python:**
    - Data analysis and manipulation (Pandas, NumPy).
    - Data visualization (Matplotlib, Seaborn).
    - Machine learning and predictive modelling (scikit-learn, TensorFlow, Keras).
    - Statistical analysis and hypothesis testing (SciPy, Stats models).

- **Business Intelligence:**
    - **Tableau:**
        - Data connection and integration with multiple sources.
        - Advanced visualization and dashboard design.
        - Performance optimization and interactive dashboard creation.
    - **Power BI:**
        - Data modelling, DAX, and M language for complex transformations.
        - Interactive dashboard design and performance optimization.
        - Integration with other Microsoft tools and advanced analytics.
- **Advanced Analytics Tools:**
    - **JMP:** Data import/export, statistical analysis, predictive modelling, and visualization.
    - **Celonis:** Process mining, data transformation, root cause analysis, and automation.
    - **PySpark (Databricks on AWS):**
        - Data frame operations, Spark SQL, ETL pipelines.
        - Machine learning with MLlib and stream processing.
- **Project Management & Collaboration:**
    - Requirement gathering, Jira, and agile methodologies.
    - Cross-functional team collaboration and stakeholder engagement.
    - IoT integration and strategic partnership development.
- **Executive Communication:**
    - Articulation of complex problems and solutions to executive audiences.
    - Data-driven decision-making and process improvement advocacy.
    - High energy, enthusiasm, and ability to wear multiple hats.

Professional Experience:

- **Montclair State University**
    - October 2023 – December 2023 | Instruction Assistant – Data Wrangling using Python
    - Evaluated assignments and mentored MSBA students in Data Wrangling with Python, enhancing their analytical skills and practical knowledge.
- **SKF India Ltd**
    - April 2021 - April 2022 | Segment Manager – Cement Segment | India
        - Developed Business Intelligence Dashboards using Power BI and Excel.
        - Formulated data-driven sales strategies based on comprehensive competitor analysis.

        - Utilized the C4C package for Sales Analytics to maintain CRM and analyse sales funnel trends.
        - Enhanced market share in India's cement industry through strategic sales, IoT integration, and partnership development. Implemented sales strategies based on competitor analysis and industry trends, improving operational efficiency and market presence.
    - May 2020 - March 2021 | Regional Manager - Heavy Industries | South India
        - Developed and maintained BI dashboards to provide actionable insights.
        - Optimized inventory management using advanced data analytics.
        - Utilized SQL and Python for data analysis and reporting.
        - Led the Heavy Industries sales team in South India, driving business growth through strategic initiatives and market intelligence. Supported executive reporting and pricing strategies, boosting decision-making and profitability.
    - July 2019 - May 2020 | Key Account Manager - Heavy Industries | South India
        - Developed and maintained BI dashboards to provide actionable insights.
        - Optimized inventory management using advanced data analytics.
        - Utilized SQL and Python for data analysis and reporting.
        - Fostered relationships with high-value accounts, executed global supply contracts, and collaborated with global teams for seamless service delivery. Identified growth opportunities and secured strategic contracts, advancing business intelligence efforts.
    - January 2019 - June 2019 | Key Account Manager – Metals | South India
        - Developed and maintained BI dashboards to provide actionable insights.
        - Optimized inventory management using advanced data analytics.
        - Utilized SQL and Python for data analysis and reporting.
        - Managed key accounts in the Metals Industry, leading global contract executions, and IoT project initiatives in the South and West regions, enhancing international operations and technological advancement.
    - September 2017 - December 2018 | Area Manager | South India
        - Developed and maintained BI dashboards to provide actionable insights.
        - Optimized inventory management using advanced data analytics.
        - Utilized SQL and Python for data analysis and reporting.
        - Led distribution sales in Karnataka, Kerala, and Northwest Tamil Nadu. Focused on team development, partner relations, and marketing campaigns, securing contracts, and driving regional profitability through innovative engineering projects.
    - March 2014 - August 2017 | Territory Manager | Karnataka
        - Directed sales and project initiatives within the Bellary Territory, including managing India's largest steel plant account and coordinating customer service engineers, aligning business strategies with global objectives.
- **Saint Gobain India Ltd**
    - June 2011 – February 2014 | Sr. Business Development Engineer | Mumbai
        - Directed pricing strategies and application engineering projects.
        - Spearheaded global development plans using advanced analytics.

- **ITW India Ltd**
    - July 2009 – June 2011 | Sr. Sales Executive – Channel Sales | Hyderabad
        - Managed market expansion and product development through data analysis.
        - Executed marketing campaigns using data-driven insights.
    - July 2009 – December 2010 | Business Development Executive | Pune
        - Targeted high-potential customers in Pune for the specialty chemical business, driving growth and managing sales through channel partners for robust performance and engagement.

Education:

- **Montclair State University**
    - M.S. in Business Analytics | Graduated in May 2024 | GPA: 4.0
        - **Coursework:** Applied Statistics for Business Analytics, Data Analytics and Visualization, Database Systems for Analytics, Data Wrangling & Analysis, Data Mining, Business Process Mining, etc.
- **Institute of Management Technology, Nagpur**
    - Post-Graduate Diploma in Management | Graduated in March 2009
        - **Coursework:** Majors in Marketing and Sales, Minors in Finance
- **Acharya Nagarjuna University**
    - Bachelor of Technology in Mechanical Engineering | Graduated in May 2006
        - **Coursework:** Mechanical Engineering - Specialization in Industrial Production

Certifications:

- Celonis Process Mining Fundamental.

Academic Projects:

- **Regression and Predictive Modelling:**
    - Developed models to analyse effect of student opting debt for education and graduation rates using MS Excel, Power Query, PH Stat, and JMP
- **Python-Based Prediction Models:**
    - Predicted reasons for customer churn in a supermarket using a Large Language Model (LLM) using Python based on customer feedback analysis.
    - Developed a prediction model using Python for a credit card company to identify customers likely to churn soon, utilizing parameters such as spending patterns.
    - Created an LLM model using Python to analyze customer sentiment based on feedback for an airline company.
- **Process Mining Capstone:**
    - Analysed ordering process inefficiencies and their impact on carbon emissions for a large chemical manufacturer using Celonis
- **Analytics Practicum Capstone:**
    - Examined healthcare disparities and telemedicine adoption in the US for TeleVU Inc. using Python and Tableau

Achievements:

- Developed and launched innovative BI solutions and dashboards for Industrial Sales Division in SKF India Ltd
- Led process improvement projects resulting in significant cost savings at leading cement and Metal customers in Indian Market
- Utilized advanced analytics to drive business insights and strategic decisions

Rakesh Koneru

Statement Of Purpose

From a young age, I have been fascinated by how technology can solve real-world problems. Growing up in Hyderabad, India, in a family that owns a general engineering workshop, I developed a natural curiosity for how machines and systems work. One of my most vivid memories is from the day my father brought a CNC machine into the workshop. I remember standing in awe as the machine came to life, cutting and shaping metal with precision that seemed almost magical. Watching it work, I felt a powerful mix of wonder and excitement at how technology could turn complex designs into reality. This "aha" moment, witnessing automation and engineering in action within our own workshop, sparked my early passion for understanding machines, a passion that has since evolved into a lifelong pursuit of technology and AI.

This early exposure evolved over time, and today, my passion for understanding and applying technology drives me toward advanced research in artificial intelligence. With a master's in business Analytics from Montclair State University and as a member of the Alpha Epsilon Lambda Honor Society, I am eager to take the next step in my journey by pursuing a PhD, focusing on Convolutional Neural Networks and Large Language Models.

My academic and professional experiences have consistently pointed me toward AI. After earning my undergraduate degree in mechanical engineering, I gained significant experience in business development roles for companies such as SKF and Saint-Gobain. While my focus was primarily on sales and managing customer relationships, I quickly recognized the growing importance of data in decision-making. Working in these roles sparked my interest in data-driven solutions and how AI could be used to solve complex problems. I realized that data science and machine learning were key to making sense of the large volumes of information I encountered daily.

This realization led me to pursue a master's in business Analytics, where I acquired foundational skills in data processing, machine learning algorithms, and programming languages like Python. Through courses such as Data Mining and Advanced Data Mining, I gained hands-on experience with tools like TensorFlow and deep learning frameworks, using these to analyse large datasets and automate decision-making processes. Earning a perfect 4.0 GPA in my master's program further solidified my commitment to mastering the field of AI. These classes laid the foundation for my understanding of AI, particularly its potential to automate complex decision-making processes.

A turning point in my research focus came during a project with TeleVu, a Canadian company specializing in wearable technology for telemedicine. TeleVu's devices allow doctors in remote areas to receive expert guidance from specialists, reminding me of a similar system I had worked on at SKF, where engineers in remote locations could receive expert assistance without the need for travel. Both experiences highlighted a significant challenge: automating these systems to the point where human intervention is minimized. Each situation whether it involves medical

equipment or industrial machinery presents unique challenges that require context-specific solutions. I realized that AI, particularly CNNs for visual data processing and LLMs for understanding diverse communication styles, could play a critical role in addressing these complex scenarios. However, I also recognized that current systems struggle to replicate the adaptability and intuition of human experts.

Currently, I am working on developing a tool that takes a video recording in an unknown language and returns the same video with audio in a language I understand—like watching an English movie in Hindi, but without the need for a human translator. This project involves both Natural Language Processing techniques and video analysis, pushing me to explore the integration of AI models like CNNs and LLMs to handle both visual and linguistic inputs. This project has fuelled my desire to delve deeper into AI, as I am constantly learning how these advanced models can be used to address real-world problems in a dynamic, real-time environment.

The PhD program at Columbia University is the perfect environment for me to achieve my research goals. The university's reputation for cutting-edge research in AI and its collaborative atmosphere will allow me to refine my skills and contribute to the development of innovative AI systems. The research community at Columbia, particularly in areas such as deep learning and NLP, aligns closely with my interests, providing me with a strong foundation to expand my work on language-based AI tools.

In the long term, I aim to develop AI systems that can adapt to real-world variability and provide solutions in industries like healthcare, engineering, and beyond. My goal is to create AI models that mimic human decision-making processes, using advanced technologies like CNNs and LLMs to address the unpredictability and complexity that current systems struggle with. By joining Columbia University, I am confident that I can contribute to research that bridges the gap between human expertise and machine intelligence, ultimately advancing the field of AI in meaningful ways.

Thank you for considering my application. I look forward to the opportunity to contribute to Columbia University's vibrant research community and work alongside its distinguished faculty and peers.