Here is a Statement of Qualifications summarizing the key strengths and experience from this resume:

**Statement of Qualifications**

Rachana Srivastava is an accomplished Big Data Analytics Engineer with over 20 years of experience in commercial application development. She specializes in data science, data engineering, object-oriented programming, and database design, with expertise in distributed systems, cloud computing, big data technologies, SQL, NoSQL, machine learning, deep learning, and generative AI.

Rachana has a proven track record in designing scalable Big Data solutions and data warehouse models on large-scale distributed data, leveraging machine learning and deep learning techniques for comprehensive data analytics. She is highly skilled in Java and Python programming languages, with a strong background in software development throughout all phases of the SDLC.

**Key qualifications include:**

- Extensive experience leading data ingestion pipelines, ETL processes, and real-time data processing using Apache Spark, Kafka, Hadoop, and cloud platforms like AWS and GCP.

- Expertise in developing machine learning models for applications like phishing detection, malware identification, and network security analytics.

- Proficiency in generative AI technologies, LLMs, vector databases, and building knowledge graphs for natural language interaction.

- Strong background in DevOps practices, containerization (Docker, Kubernetes), and CI/CD pipelines for streamlined deployment.

- Proven ability to mentor teams, conduct training, and provide technical leadership on data architecture and engineering best practices.

With her deep technical expertise and leadership experience across the full software development lifecycle, Rachana is well-positioned to drive innovation and contribute to organizational growth in a challenging software engineering role.

**Describe your background/technical experience in enterprise application architecture:**

have extensive experience in enterprise application architecture, particularly in integrating data from diverse sources while ensuring seamless compatibility and interoperability. Here are some key highlights:

As a Staff Software Engineer at IBM, I worked on WebSphere Business Integration (WBI) adapters for the WebSphere InterChange Server, which formed the backbone of IBM's WebSphere Business Integration suite for Enterprise Application Integration (EAI). I designed and developed WBI Adapter components like the JCA Base Classes, WBI Adapter for Enterprise JavaBeans (EJB), and EJB Object Discovery Agent (ODA). This involved integrating data from various sources like databases, messaging systems, and applications while ensuring compatibility across different runtime servers such as WebSphere Application Server, Process Server, Message Broker, and MQ Workflow.

As a Principal Software Engineer at Thomson Reuters, I led the development of a real-time phishing detection system that integrated data from diverse sources using machine learning algorithms.I architected a feature engine and rule engine to categorize tiered details, enabling customers to prioritize potential phishing threats effectively.

At Ayla Networks, I led the design and development of data ingestion pipelines using Apache Spark on AWS EMR, achieving high scalability of 10 million transactions per hour.This involved integrating IoT sensor data from Kafka and other sources while ensuring compatibility with AWS services like EMR, Athena, S3, and DynamoDB.

Throughout my career, I have demonstrated proficiency in integrating data from relational databases (Oracle, MySQL, DB2, Postgres), NoSQL databases (Cassandra, Redis, Aerospike, MongoDB, HBase, Elasticsearch), messaging systems (Kafka, RabbitMQ), and various applications and services. I have leveraged technologies like JCA, SOA, SDO, and object-oriented modeling to ensure seamless compatibility and interoperability across diverse enterprises.

**Describe your experience and familiarity in discovering, assessing, architecting, and delivering large complex enterprise solutions that were considered transformational.**

I have extensive experience in discovering, assessing, architecting, and delivering large complex enterprise solutions that were transformational. One notable example is my work at Ayla Networks, where I led the design and development of data ingestion pipelines using Apache Spark on AWS EMR clusters.

This project was transformational for Ayla Networks, enabling them to process an extremely high volume of nearly 10 million IoT sensor data transactions per hour, which helped secure a multi-million dollar project from a major telecommunications company.

My role in this effort involved:

- Architecting and implementing scalable data ingestion pipelines on AWS EMR clusters using Apache Spark, achieving high scalability by leveraging nearly 40 EMR nodes.

- Implementing a datalake to ingest and process the high-volume IoT data from Kafka using Spark Structured Streaming.

- Developing monitoring and alerting tools using Kafka Streams to ensure reliable and efficient data processing.

- Orchestrating the entire data pipeline on AWS using Airflow operators to interact with services like EMR, Athena, S3, and DynamoDB.

- Optimizing the pipeline to handle 60 million requests per hour by tuning various Spark parameters like partitions, in-memory caching, efficient joins, and transformations.

- Deploying the ETL pipeline on both AWS and GCP, ensuring compatibility and interoperability across cloud platforms.

This transformational project showcased my ability to discover and assess complex business requirements, architect scalable and high-performance solutions, and deliver robust enterprise-grade systems that enabled Ayla Networks to unlock new revenue streams and gain a competitive edge in the IoT market.

Another example of my experience in delivering transformational solutions is my work at Thomson Reuters, where I led the end-to-end development and deployment of a real-time phishing detection system utilizing machine learning algorithms.

**Describe your experience providing information to leadership and facilitating collaboration with various teams and stakeholders.**

I have extensive experience providing information to leadership and facilitating collaboration with various teams and stakeholders across different roles. Here are some key examples:

As a Principal Software Engineer at Ayla Networks, I influenced change by architecting and implementing scalable data ingestion pipelines on AWS EMR clusters using Apache Spark. This transformational project enabled Ayla to process nearly 10 million IoT sensor data transactions per hour, securing a multi-million dollar project from a major telecommunications company. I facilitated collaboration with cross-functional teams, including data engineers, cloud architects, and product managers, to ensure seamless integration and alignment with business objectives.

During my tenure at Thomson Reuters, I led the end-to-end development and deployment of a real-time phishing detection system utilizing machine learning algorithms.[1] This system boosted the efficiency of identifying and combating phishing attempts by 30%, safeguarding sensitive user information. I collaborated closely with stakeholders, including cybersecurity analysts, product managers, and business leaders, to understand their requirements and provide regular updates on project progress and performance metrics.

At IBM, I served as the SCRUM master for three development projects with globally distributed teams across the US, Canada, India, and China. In this role, I facilitated collaboration, coordinated daily stand-ups, and ensured effective communication among team members and stakeholders. I also identified knowledge gaps within the team and conducted training sessions to upskill team members, enabling them to proactively address customer issues and drive product enhancements.

Throughout my career, I have demonstrated the ability to communicate complex technical concepts to both technical and non-technical audiences, including leadership teams and cross-functional stakeholders.

**Provide details of your experience and methods in presenting complex ideas or concepts to non-technical personnel.**

I have extensive experience in presenting complex technical ideas and concepts to non-technical personnel in a clear and understandable manner. Here are some examples:

During my time at Ayla Networks, I played a crucial role in securing a multi-million dollar project from a major telecommunications company. This involved presenting the technical architecture and capabilities of the scalable data ingestion pipelines I had designed and developed using Apache Spark on AWS EMR clusters. I effectively communicated the business value and impact of this solution to non-technical stakeholders, such as product managers and executive leadership, using clear explanations and illustrative examples.

At Thomson Reuters, I led the development and deployment of a real-time phishing detection system utilizing machine learning algorithms. I regularly presented project updates, performance metrics, and recommendations to cross-functional teams, including cybersecurity analysts, product managers, and business leaders. I employed techniques such as storytelling, visualizations, and analogies to convey complex machine learning concepts and data insights in an accessible manner.

During my tenure at IBM, I served as the SCRUM master for three development projects with globally distributed teams.[1] In this role, I facilitated collaboration and communication among team members and stakeholders, including non-technical project managers and business analysts. I conducted training sessions to upskill team members, breaking down complex technical topics into digestible modules and using real-world examples to enhance understanding.

Throughout my career, I have demonstrated the ability to tailor my communication style to the audience's technical background. I employ techniques such as using familiar analogies, visual aids, and real-world examples to illustrate complex concepts. I have influenced strategic decision-making, facilitated cross-functional collaboration, and driven positive