

# Vidya Sagar Reddy Desu

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## SUMMARY

Computer Science graduate with 5 years of software engineering experience and a solid foundation in full-stack development, scalable backend systems, and data-centric applications. Skilled in Java, Python, Angular, and GraphQL, with hands-on experience building secure, responsive web applications and internal tools. Proven ability to work cross-functionally with design, product, and engineering teams. Looking to contribute to impactful, user-focused products in a fast-paced and collaborative environment.

## EDUCATION

**Binghamton University, State University of New York, Thomas J. Watson College of Engineering and Applied Science**

*Master of Science in Computer Science*

*January 2023 – December 2024*

**Sreenidhi Institute of Science and Technology, Hyderabad, India**

*Bachelor of Technology in Computer Science and Engineering*

*July 2013 – May 2017*

## TECHNICAL SKILLS

**Programming Languages:** Java, Python, JavaScript, TypeScript, C, C#, C++

**Frameworks & Libraries:** Spring Boot, Spring, Hibernate, Angular, Node.js, JUnit, Mockito

**Web Technologies:** HTML5, CSS3, REST APIs, GraphQL, OAuth

**Databases & Data:** MySQL, Oracle SQL, MongoDB, DynamoDB, Cassandra

**Cloud & DevOps:** AWS, Azure, Docker, Kubernetes, Jenkins, TeamCity, CI/CD, Azure Blob Storage

**Architectures & Patterns:** Microservices Architecture, MVC, Design Patterns, Event-driven Architecture

**Development Tools:** Git, JIRA, IntelliJ IDEA, Visual Studio, Maven, SonarQube, Confluence, Figma

**Messaging & Streaming:** Kafka

## PROFESSIONAL EXPERIENCE

**Binghamton University, Graduate Teaching Assistant** | Binghamton, NY

*August 2023 – December 2024*

- Mentored 35 graduate students in advanced database systems, achieving 100% pass rate through hands-on projects utilizing AWS services, Neo4J graph databases, and SQL optimization techniques, while conducting weekly office hours for personalized support.
- Provided comprehensive technical guidance on SQL query optimization, Python programming, and database design principles through 1:1 consultations and small group sessions, improving student proficiency in relational and NoSQL database technologies.

**Prime Healthcare Management Inc, IT Analyst Intern** | Ontario, CA

*September 2024 – November 2024*

- Developed a full-stack Research Application Portal that streamlined proposal submissions by 30%, implementing OAuth-based secure authentication, role-based access control, and automated email notification systems.
- Architected GraphQL API endpoints and designed normalized MySQL database schema supporting advanced features including multi-facility selection, document management with Azure Blob Storage, and real-time status tracking with efficient data fetching through GraphQL queries.
- Enhanced user experience by developing responsive front-end components with TypeScript and Angular, creating intuitive interfaces for password reset functionality, application progress tracking, and comprehensive review dashboards that reduced approval cycle time by 40%.

**IBM India Private Limited, Application Developer** | Bengaluru, India

*April 2018 – December 2022*

### Sales Workstation

- Led full-stack redesign of a global trading platform's trade management system using C#/.NET and Angular, implementing automated microservices workflows that reduced processing time by 40% and improved data accuracy for front and middle office sales teams.
- Managed enterprise trading system for credit and rates products across cash and derivatives markets, serving as a subject matter expert on SWS platform architecture; enhanced user experience by 25% through interface optimizations using JavaScript/TypeScript and in-depth root cause analysis.
- Implemented real-time data synchronization between front office trading systems and back-end processing using Kafka message streaming and .NET-based batch processing, cutting data latency by 60% and improving trade visibility.
- Engineered scalable, distributed storage with Cassandra, applying advanced data modeling and consistency strategies to support high-throughput, low-latency trade processing across microservices.

### Billing Gateway

- Developed and deployed 5 robust REST APIs using Java Spring Framework and Hibernate, efficiently handling over 100,000 daily requests with 99.9% uptime to support the transition from legacy systems to the BGW-AYA-Brixton billing platform.
- Integrated Kafka consumer and producer components to enable real-time, event-driven communication between distributed microservices, enhancing system scalability and reliability.

- Led the full lifecycle development of the Bill Charge Preview workflow with Spring Boot microservices, implementing automated testing with JUnit and Mockito, and CI/CD integration via Jenkins; directed Agile teams to deliver optimized services that generated more than 1 million accurate customer invoices each month.
- Actively participated in Agile/Scrum practices, including over 20 sprint planning sessions, daily stand-ups, and retrospectives, leveraging JIRA for user story tracking and Git for version control, resulting in a 95% on-time sprint delivery rate.

### Service Delivery Transformation

- Integrated the Enterprise validation system with a rule engine via process-driven microservices architecture using Java and Spring and gained hands-on experience implementing Kafka consumer and producer components for event-driven data processing. Enhanced EO-EOE-EOV business workflow, achieving a 15% reduction in data validation time while maintaining 100% accuracy.
- Maintained data integrity through robust validation mechanisms against predefined acceptable values in Oracle SQL databases and utilized Kafka for streaming validation events between microservices. Established a controlled framework for rule execution using Spring Batch, increasing validation robustness by 30% and providing comprehensive cumulative results.

## ACADEMIC PROJECTS

### Stock Price Forecasting | Binghamton, NY

January 2024 – February 2024

- Engineered an end-to-end machine learning pipeline for real-time stock price prediction achieving 85% accuracy, incorporating multiple data sources through Python ETL processes and implementing LSTM, ARIMA, and transformer models with TensorFlow and NumPy.
- Developed interactive visualization dashboards using Matplotlib and D3.js to display prediction trends, confidence intervals, and historical performance metrics, enabling data-driven investment decision support.

### AWS - Databricks | Binghamton, NY

November 2023 – December 2023

- Developed SQL data warehouse infrastructure using AWS CloudFormation stacks, S3 storage, and Redshift, optimizing data management workflows and reducing query response times by 50%.
- Created an efficient ETL pipeline for Delta LIVE tables with SQL Warehouse schema integration, leveraging PySpark and Kafka streaming for real-time data processing, achieving 40% improvement in data storage efficiency.

### Retail Business Database Management System | Binghamton, NY

April 2023 – May 2023

- Built a menu-driven Java application with JDBC connectivity to MySQL database, implementing MVC architecture that contributed to 100% database interaction efficacy and 30% improved query performance.
- Automated data management operations using stored procedures, triggers, and normalized schema design in MySQL, achieving a 40% reduction in manual effort and ensuring referential integrity across interconnected business entities.

## PERSONAL PROJECTS

### NumVana (<https://numvana.onrender.com>) | Binghamton, NY

August 2024 – December 2024

- Developed NumVana, an interactive web-based number guessing game using Spring Boot backend with RESTful API endpoints and frontend built with JavaScript, HTML5, and CSS3, implementing a dynamic difficulty system with secure random number generation.
- Created a responsive single-page application with advanced features including localStorage for persistent game statistics, dark/light mode toggle using CSS variables, and interactive UI elements with CSS animations and JavaScript event handlers.

## CERTIFICATION AND ACHIEVEMENTS

- Awarded **Microsoft Azure Fundamentals certification** in April 2021, demonstrating foundational expertise in cloud services and Azure architecture.
- Developed advanced skills through Udemy's **Master Microservices with Java, Spring, Docker, Kubernetes**, gaining hands-on experience in building scalable, containerized backend systems.
- Gained full-stack development expertise via Udemy's **A Fullstack Saga: SpringBoot / Angular / Kubernetes**, designing and deploying responsive applications with modern DevOps tooling.
- Honored with IBM's **2019 Best Graduate Hire Award** as a top performer among 350+ recent graduate hires.