

# JYOTI SINHA

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**Software Engineer with 3+ years of experience designing and implementing scalable microservices, AI-integrated systems, and high-performance APIs. Proven track record of delivering measurable business impact through system optimization, cost reduction, and innovative solutions using Java, Python, Golang, and modern AI/ML frameworks.**

## PROFESSIONAL ENGINEERING EXPERIENCE

### SS&C Technologies | California, United States

#### Software Engineer | May2022 – Current

- Led design of RAG-powered conversational intelligence backend using Python, Lang Chain, and Fast API within custom MCP architecture, driving 20% increase in user engagement across enterprise clients through enhanced contextual accuracy and scalability
- Replaced Starburst with open-source Trino, deployed and configured connectors for seamless multi-database integration, implemented fine-grained access control via Open Policy Agent (OPA), and optimized query execution parameters and caching layers—achieved 35% performance improvement and \$2M+ annual cost savings.
- Architected Trino audit logging infrastructure by implementing QueryLog plugin and migrating storage to SS&C Cloud, eliminating Kubernetes disk pressure while enabling cost-effective retention and integrating structured logs with Grafana for centralized visibility and faster issue resolution
- Developed Java Spring Boot microservice with dynamic configuration framework that fetches data from Trino, serving 50+ clients with self-service data retrieval capabilities using user-defined query parameters and mandatory fields.
- Boosted system efficiency by implementing pagination and streaming pipelines, reducing average response time by 21%, alleviating database load, and enhancing user productivity with one-click CSV and Excel exports for large-scale client data.
- Accelerated query performance by integrating Redis caching layer, cutting execution time by 30% and reducing latency resulting in higher system throughput and improved responsiveness for enterprise workloads
- Implemented scalable microservices using Java, Spring Boot, and C# ASP.NET Minimal API with robust RESTful architecture and seamless integration with PostgreSQL and Starburst, enabling efficient backend-to-frontend communication for enterprise applications
- Developed high-performance RESTful APIs in Golang, leveraging SQLC for type-safe SQL queries and ProtoBuf for optimized data serialization and RPC communication, ensuring fast, reliable, and maintainable cross-service interactions across the platform.

### BDIPLUS | New York City, United States

#### Software Engineer | Mar2022 – May2022

- Developed a user-friendly multi-step sign-up form using JavaScript, React, Redux, Bootstrap, and implemented server-side endpoints with Node.js, and SQL to ensure seamless integration with the client-side user interface.
- Proactively implemented various new features and resolved critical bugs with tight deadlines, ensuring a high-quality product ready for launch and minimizing potential customer support requests.

## INTERNSHIPS & RESEARCH EXPERIENCE

### BDIPLUS | Data Engineer Intern | New York City, United States | May'21 – Dec'21

- Assisted in building a data pipeline to extract 4TB of customer and prospect data into an HDFS cluster using Apache Hive, PySpark, and Shell scripting, gaining hands-on experience in large-scale data processing.
- Supported data quality improvement by identifying 8% mismatched records, analyzing the existing matching algorithm, and helping implement a new method that increased data accuracy by 16%.

### University at Buffalo | Graduate Research Intern (Pioneer Research, Thesis) | Buffalo, United States | Fall'20 – Fall'21

- Developed a scalable cross-browser webapp and hosted it on the cloud to collect user perception about various biometric systems.
- Retrieved data collected from MongoDB, performed statistical analysis using SPSS and analyzed the data using various feature selection and machine learning algorithms such as CNN, Chi-Squared test, SFS, SBS etc. to understand user concerns about using a particular biometric system.

## CORE COMPETENCIES

- **Programming Language:** - Java, C#, Python, Golang, JavaScript, SQL, HTML, CSS, React JS, Bootstrap
- **AI & LLM Integration:** LangChain, OpenAI, RAG, Vector DB (FAISS, Pinecone), MCP, Ollama Hugging Face, Transformers, Prompt Engineering, TensorFlow, Keras, NumPy, Pandas, CNN, RNN
- **Databases & Data Systems:** PostgreSQL, MS SQL Server, MongoDB, Redis Trino, Starburst, Apache Hive
- **Cloud & DevOps & Monitoring:** Docker, Kubernetes, Helm, AWS (lambda, EC2, S3), Model deployment Pipelines, Grafana, Prometheus
- **Backend Frameworks & Tools:** Spring Boot, Maven, Gradle, Hibernate, JPA, ASP.NET, FastAPI, RESTful APIs, gRPC, ProtoBuf, Streamlit
- **Machine Learning & Tools:** TensorFlow, Keras, NumPy, Pandas, Clustering algorithm, CNN, RNN, MLP, SPSS, Git, JIRA, Swagger, Postman
- **Core Strengths:** System Design, Scalable Microservices, API Optimization, Data-Driven Problem Solving, Critical Thinking

## EDUCATION

- **MS, Computer Science (AI Minor)** - University at Buffalo, USA | Research Fellowship | Teaching Assistant (Machine Learning, Pattern Recognition, DBMS) | Perfect GPA | Aug 2019 - Feb 2022
- **BE, Electronics and Telecommunication Engineering** - BIT MESRA, India | Best Outgoing Award | Aug 2014 - May 2018