

Nagendra Rishi Raj Chanda

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SUMMARY:

Experienced Software Engineer with 6 years of hands-on expertise in **designing, building, and delivering** robust software solutions.

EDUCATION:

Master of Science, Computer Science

University of North Carolina at Charlotte, NC, USA.

Aug 2022 - Dec 2023

GPA: 4.0

Bachelor of Technology, Computer Science and Engineering

Vardaman College of Engineering, India

Aug 2016 - Sep 2020

TECHNICAL SKILLS:

Languages: Python, Java, JavaScript, TypeScript, Linux, Go.

Web development: HTML, CSS, React.js, Angular, Next.js, Spring Boot, Node.js, Express.js, REST, Flask, Vite. SOAP

Databases: MySQL, MongoDB, PostgreSQL.

Cloud Infrastructure: GCP (Compute Engine, Kubernetes Engine, Cloud Functions, etc.), AWS (S3, EKS, EC2, Route53, etc.), Azure

Tools and Frameworks: GitHub, Docker, Kubernetes, Apache Kafka, JUnit, Postman, Elastic Search, Okta, Tableau, CI/CD (Jenkins, GoCD), version control (Git, Bit Bucket), build tools (Maven, Gradle, npm), IDEs (IntelliJ, Eclipse, Visual Studio Code), Jira, RabbitMQ, Swagger, Playwright, Material UI, Terraform

Methodologies/Paradigms: Agile, Object Oriented Programming and Design, Design Patterns, CI/CD, Microservices, RESTful services, Gitlab.

Gen AI Tools: LangChain, LangGraph, LangServer, LangSmith, LlamaIndex, PhiData, RAG (Retrieval-Augmented Generation), AWS (SageMaker, Lambda, Bedrock, EC2), Azure (Azure ML, Azure AI, App Services), GCP (Vertex AI, Cloud Functions), Heroku, Deep Learning, Generative AI, LLMs (GPT, Gemini, LLaMA, Mistral, DeepSeek), Machine Learning, Model Deployment, Natural Language Processing (NLP), Prompt Engineering.

Vibe Stack:

Chat: OpenAI's ChatGPT, Google's Gemini, Anthropic's Claude, xAI's Grok, Perplexity AI, and Microsoft's Co-pilot. These tools focus on conversation, providing natural language processing models for chatbots and assistants.

Automations and Flows: Tools like Agent Tools (No-code AI agents), Manus (General-purpose AI agent), Deep Research (In-depth analysis prompts), O3 (AI workflow helper), Zapier (No-code automations), and n8n (Open-source workflow builder).

Vibe Coding: Windsurf (AI coding IDE), Cursor (Chat-first code editor), Bolt (Mac AI utility), Lovable (Natural-language app builder), V0 (UI generator by Vercel).

AI Models: Gemini 2.5 (Google's frontier model), Claude 3.7 (Anthropic's flagship LLM), Deepseek (Open-source code LLM), GPT-03 (GPT-3 series model), Llama (Meta's open-source LLM), and xAI Grok (Real-time bot).

AI Model Repositories: FAL (Model hosting hub), Replicate (Run any ML model), and OpenRouter (Multi-model proxy API).

Deployment: Vercel (Frontend cloud deployment), Replit (Browser coding + hosting).

Database: Firebase (Google backend-as-service), Supabase (Open-source Postgres backend), InstantDB (Serverless vector store).

Terminal-Based Tools: Codex (LLM for code), Claude Code (Anthropic coding model).

PROFESSIONAL EXPERIENCE:

Applied Gen AI, 100x Engineers

Feb 2025 – Present

- Developing a **Retrieval-Augmented Generation (RAG)** pipeline for a chatbot using **Langchain** and GCP **Bigquery** tools to help the users gain insights on available products.
- Developed a comprehensive **backend** system for a **chat-based** application, enhancing information retrieval and processing capabilities.
- Utilized Python and frameworks like **FastAPI** to build scalable and efficient APIs.
- Implemented data processing pipelines using **Pandas**, **NLTK**, improving data manipulation and text processing efficiency.
- Led the integration of a keyword generation module, boosting search functionality and user experience.
- Optimized data processing pipelines, achieving a 30% reduction in processing time and enhancing system performance.
- Conducted unit testing with **Pytest**, ensuring high code quality and reliability.
- Overcome data consistency challenges by implementing a delta check mechanism, maintaining data integrity.
- Contributed to a **20%** increase in user engagement through improved system responsiveness and reliability.
- Utilizing **Langchain** and **Langserve** to deploy the application with **FastAPI**, leveraging **GCP vertexAI** services for **CI/CD** and software development.

https://www.briggsandstratton.com/na/en_us/briggs-assist.html

(Tech Stack: GCP, Python, React, Node.js, FastAPI, Langchain, Lang serve, FastAPI, Pandas, NLTK)

Software Engineer 2, American Tire Distributors, USA

June 2023 – Present

- Designed and implemented a **high-performance EDI** (Electronic Data Interchange) processing system capable of handling **100,000+** daily transactions, leveraging modular design principles to transform hierarchical data with over **50** nested fields into structured output, achieving **40%** faster processing time and reducing error rates by **30%**.
- Enhanced the **Backend** REST API to support **advanced** transaction Replay functionality, significantly improving partner monthly revenues by **4 million** each quarter. This upgrade streamlined Order life cycle processes, significantly boosting vendor profits.
- Automated scheduling Jobs for **50+** partners using **python** and **Golang**, reducing downtime by **90%** and cutting operational time to less than **5 minutes**.
- Developed dynamic, high-performance web interfaces using **React & TypeScript**, improving user interaction speed by 30%.

- Optimized **cluster** sizing to efficiently manage **live traffic** and **fanout** processes, enabling the system to handle peak loads without performance degradation or reliability issues. Implemented **automated** scaling scripts to **dynamically** adjust **cluster**, ensuring **cost-effectiveness** and **optimal resource utilization**.
 - Contributed to the conversion of a single-tenant architecture to a multi-tenant architecture, developing essential components and facilitated smooth partner migration, leading to a **20%** cut in infrastructure expenses.
 - Achieved a cost reduction of **\$10,000** in **GCP** by optimizing resource allocation, minimizing unused resources across.
 - Kubernetes clusters, and leveraging cost-efficient scaling strategies.
 - Wrote backend automation scripts and data processing jobs using **Python**, supporting frontend needs and internal tooling.
- (Tech Stack: **GCP, Angular, Nodejs, Spring Boot, Python, Go.**)

Software Engineer, Digital Bank of Singapore, India

Sep 2020 – Jul 2022

- Executed the development of websites, **micro-frontends** applications, and landing pages from design to deployment, managing a daily traffic volume of **1.5 million users**.
- Established a proprietary repository hosting **120+** reusable **micro frontend components**, tailored for deployment across all public facing webpages.
- Spearheaded the development and deployment of applications in cloud environments, leveraging technologies such as **AWS Lambda** and **AWS CloudFront** for enhanced scalability and reliability.
- Established **cross-browser compatibility** for web applications and integrated with major browsers such as Safari, Internet Explorer, Firefox, and Google Chrome, resulting in a seamless user experience for **95%** of all website visitors across different browsers across the world.

(Tech Stack: **AWS, React, Nodejs, Spring Boot.**)

Syneffo Solutions, India

July 2018 – Sep 2020

Associate Software Developer

- Enhanced search efficiency by reducing query time by **12ms** through strategic indexing of stored data using the **Elasticsearch** tech stack, enabling faster filtering and sorting for data analysis.

PROJECTS:

AI-Powered Technical Documentation Assistant

- Engineered a sophisticated PDF processing pipeline using **Google Cloud Storage** and **Big Query** for efficient document storage and retrieval.
- Implemented **TF-IDF vectorization** for **semantic search** capabilities with a similarity threshold of **0.85**
- Developed a custom **AI agent system** using **Google's Gemini 2.0** model for advanced query processing and response generation.
- Implemented **context-aware document analysis** with intelligent keyword extraction and query refinement.
- Built a dynamic filtering system supporting multiple **parameters** (model numbers, part numbers, brands, product categories)
- Implemented real-time search result ranking and relevance scoring.
- Integrated Firebase Authentication for secure user management
- Implemented JWT-based session management with refresh token support.
- Designed modular components for PDF management, **session handling, caching, and UI rendering.**
- Implemented async/await patterns for improved performance and responsiveness.
- Developed a sophisticated caching system with **TTL** (Time to Live) management
- Implemented intelligent data prefetching and **lazy loading** strategies.

ES Data Load Refresh

- Developed and implemented a **Python**-based data processing script, integrating **MongoDB** and external **RESTful** services to enrich and update location-related data.
- Incorporated **Prometheus** metrics to monitor application performance, including total **API** calls and error tracking, facilitating real-time **monitoring** and **alerting**.

Global DBS Branch Locator

- Developed a **micro frontend** component to locate all DBS branches and ATMs globally, integrating it across customer-facing sites in Singapore, India, Hong Kong, and Indonesia.
- Revamped a **React.js** component that locates all DBS branches and ATMs worldwide. (<https://www.dbs.com/about-us/our-global-offices/default.page>)

EDI-UI (Internal Tool - ATD)

- Part of team responsible for design and development of new in-house **EDI** tool handling business transactions with **B2B** customers.
- Utilized **Angular**, **TypeScript**, and **RxJS** to build a scalable and maintainable enterprise application.

AWS Migration

- Developed a new system, **6 months** ahead of schedule, **migrating** the public-facing DBS websites from **jQuery** to **React.js**, resulting in the addition of useful new capabilities.
- Built and maintained a library of over **70** reusable **components** using **ReactJS**, **Hooks**, and **Redux**, resulting in an 80% reduction in development time for new projects.

EDI Integration – Event-Driven Data Exchange Platform

- **Designed** and developed a **high-throughput EDI Integration** microservice using **Spring Boot**, enabling seamless event-driven data exchange between internal systems and external partners.

- **Implemented** an event-driven architecture with **Apache Kafka**, building producers and consumers to handle EDI message streams at scale (**thousands per day**) while ensuring high throughput and low latency.
- **Implemented** robust error handling and fault-tolerant design (retry mechanisms, dead-letter queues, fallback logic) to ensure reliable processing and **99.9% uptime** even when external services were unavailable.
- **Resolved** critical production issues (e.g., memory leaks, thread contention) through advanced debugging and profiling, improving system stability and reducing incident resolution time by **50%**.
- **Optimized** performance by introducing multithreading (**Java Executor Service**) and **asynchronous** processing, increasing throughput by **30%** and reducing average processing time per message by **20%**.

Pricing Tool

- Developed and implemented **Angular** routing for a web application, ensuring structured navigation and **component rendering** based on user-defined paths and authentication status.

ACHIEVEMENTS:

- First prize at Megathon 2017 with an amount of 20,000 Indian rupees organized by IIIT Hyderabad-IBM challenge of making a chatbot using MS Bot Framework, IBM Watson.
- Was one of fifty teams in DBS Hackathon and made it to the final five.
- BEC Certification in Vantage Level by Cambridge English.
- Mentored a group of 5 students in Hackathon at E-Summit organized by Vardhman College in association with multiple startups of India and IIT Bombay e-cell.
- **Gladiator Recognition Award, DBS Bank:** Recognized for outstanding contributions for front/back-end development demonstrating design skills, coding expertise, and dedication to delivering high-quality user experiences.

CERTIFICATIONS

Microsoft Certified: Azure AI Engineer Associate
 Google Professional Machine Learning Engineer
 Machine-learning-specialization - deeplearning.ai