

# KARTIK KANOTRA

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## EDUCATION

### New York University (NYU), Courant Institute of Mathematical Sciences

Sep 2023 - May 2025

Master of Science in Computer Science GPA 3.64/4

New York, USA

**Relevant Courses:** Predictive Analytics, Operating Systems, Cloud & Machine Learning (ML), Large Language Models (LLMs)

### Birla Institute of Technology and Science (BITS), Pilani

Aug 2017 - Jul 2021

B.E. (Hons) in Electrical and Electronics Engineering (First Division)

Hyderabad, India

**Relevant Courses:** Object-Oriented Programming, Data Structures and Algorithms, Cryptography, Data Mining, Database Systems, Data Science, Artificial Intelligence, Information Retrieval, Parallel Programming, Computer Vision, Distributed Systems, Deep Learning

## EXPERIENCE

### Visa Inc

June 2022 - Jul 2023

Software Developer

Bangalore, India

- Led the overhaul of the Digital Configuration Platform with **Angular** and **Spring Boot**, achieving a 30% increase in website conversion rates and driving revenue growth. Enhanced user experiences and streamlined operations through **agile** development, **microservices** architecture, **CI/CD** practices, and **cloud deployment**. [\[Link\]](#)
- Conducted **Angular** and **Cypress** testing for VDP-API Connect, integrating **Kafka** for efficient event-driven communication and **logging**. Achieved a **17%** performance enhancement and increased reliability through rigorous **end-to-end** automated testing.
- Optimized **SQL** and **MongoDB** queries, cutting **data retrieval** times by **70%**, boosting efficiency and decision-making.

### Samsung Research And Development (R&D) Institute

June 2021 - Dec 2021

Software Engineer Intern

Bangalore, India

- Developed and deployed a Chatbot for **Samsung Finance Plus Application**, leveraging **RASA** opensource and **Spacy** for English; Improved user engagement by **50 %** through personalized recommendations.
- Extended Chatbot functionality for regional Indian languages (Bengali, Hindi, Marathi) using **Natural Language Processing (NLU)** pipelines and by training **FastText** word vectors. Used **Java-8** as backend and **Docker** for containerization.
- Orchestrated **API integration** and applied data analysis techniques, incorporating rigorous **unit testing**, to refine chatbot interactions; Improved operational efficiency and **enhanced customer engagement** for the Samsung Finance Plus App.

### New York University (NYU), Courant Institute of Mathematical Sciences

Jan 2024 - Present

Graduate Teaching Assistant

New York, USA

- Led **Big Data Science** assignments and tutorials, focusing on **Apache Spark (MLlib , Pyspark)** and **Hadoop MapReduce** for **distributed computing**.
- Graded assignments, conducted office hours and utilized **RapidMiner**, equipping students for real-world industry projects..

## PROJECTS

- Topic Modeling - Research Articles:** Employed **K-Means** Clustering to organize 32 research papers into thematic groups utilizing **TF-IDF**, **PCA**, **BERT word embeddings** and enhancing understanding through **Prompt Engineering** and **OpenAI API** for accurate topic representations, streamlining analysis and organization based on their results. [\[Link\]](#)
- CNN Perf Estimation:** Optimized **ResNet-50**, **VGG-16**, and **MobileNetV2** models on **Nvidia GPUs(A100, V100)** using **CUDA** and **PyTorch**, focusing on various batch sizes and layer dimensions. Leveraged theoretical and **Nsight Compute** empirical data to enhance **FLOPS** and memory bandwidth by **23.65%**. Achieved significant improvements in speed and efficiency across models, demonstrating expertise in **deep learning optimization** and **GPU resource management**. [\[Link\]](#)
- BLOCKCHAIN:** Developed **Ethereum** blockchain functionalities in **C++**, creating transactions, blocks, and blockchain structures. Employed **SHA-256** encoding for cryptographic operations. [\[Link\]](#)
- E-Commerce Website:** Built an E-commerce site with **Django** for backend and **React JS** for frontend. Analyzed performance metrics, yielding a **30%** boost in response time. Achieved a swift **180 ms** response time via targeted optimizations. Seamlessly integrated **RESTful APIs** for enhanced frontend-backend communication, optimizing overall website functionality. [\[Link\]](#)

## SKILLS

**Languages:** C/C++, C# Java, Javascript, Typescript, Python, HTML/CSS, Bash scripting, Golang, Json, swift, scala

**Tools:** Amazon Web Services, Git, Azure, Postman, Vue.js, Linux, Unix, Analytics, Android/iOS Application Development, Architecture, AWS DynamoDB, Node.js, Cuda, SaaS, PaaS, AWS EC2, Microsoft Office, Confluence, Swagger API, WordPress, PHP , Next.js, JUnit

**Frameworks:** SpringBoot, Selenium, Kubernetes, Statistics, Microservices, Web Application, Kotlin, Grafana, Regression, JVM, Redux, MATLAB/SIMULINK, .Net, REST APIs, Google Cloud Platform (GCP), Jenkins, TensorFlow, Backbone.JS

## ACHIEVEMENTS & AWARDS

- VISA ACHIEVERS:** Awarded for excellent performance by VISA's team and organization leaders - June 2022
- JPMC Code For Good'21 Hackathon:** Finalist of Code for Good 21 hackathon by JPMorgan Chase & Co - June 2021