

NISHANTH KOTLA

+1 (332) 285-8700 ✉ nishanthkotla29@gmail.com ✉ nk3968@nyu.edu 🌐 [/nishanthkotla](https://www.linkedin.com/in/nishanthkotla) 🌐 [/Nishanth29](https://www.github.com/Nishanth29) 📄 [Google Scholar](https://scholar.google.com/citations?user=Nishanth29)

EDUCATION

New York University (NYU), Tandon School of Engineering

Sep 2024 - May 2026

Master of Science in Computer Science

New York, USA

Relevant Courses: Machine Learning, Design and Analysis of Algorithms I, Principles of Database Systems

Indian Institute of Technology Guwahati

Jul 2020 - May 2024

Bachelor of Technology, Electronics and Communication with Minor in Computer Science **GPA:** 8.35/10.0 (First Division)

Guwahati, India

Relevant Courses: Deep Learning, Fundamentals Of AI, Image Processing, Fuzzy Logic & Neural Networks, Data Structures and Algorithms(+Lab), Data-Driven System Theory, Probability & Random Processes, Financial Derivatives, Logical Reasoning

SKILLS

Areas: Data Structures, Object Oriented Programming (OOP), Database Systems, Machine Learning, Artificial Intelligence, System Design (LLD)

Programming Languages: Python, C++ (STL), JavaScript, SQL, C, HTML, CSS, NodeJS, Java

Machine Learning & AI Frameworks: PyTorch, TensorFlow, PyTorch Lightning, OpenCV, Hugging Face, SciKit-learn, NLTK, spaCy

Tools and Technologies: Matplotlib, Grafana, ReactJS, Bootstrap, GitHub, Nvidia CUDA, Kubernetes, Docker, Spark, Hadoop, Agile, Pandas, Azure

Cloud & Infrastructure: AWS (CloudFormation, Step Functions, Lambda, S3, EC2), GCP, MySQL, Firebase, Linux, ElasticSearch, GPU Acceleration

ACHIEVEMENTS

- **Codeforces:** Achieved a maximum rating **1634 (Expert)**, securing global ranks of 244 (Round 805) and 1170 (Round 793).
- **Google Kickstart:** Secured global ranks of **1400 in Round C** and **1505 in Round D**.

EXPERIENCE

New York University, Dr. Siddharth Garg

Sep 2024 - Present

Graduate Research Assistant

New York, USA

- Pioneered research on domain-specific adaptations of SAT solvers and Computer Algebra Systems (CAS) to optimize hardware design processes; **enhanced High-Level Synthesis (HLS) methodologies**. **Assisting students in the ZERO to ASICs program** with digital and analog circuit concepts to strengthen hardware design knowledge.

Indian Institute of Technology Guwahati, Dr Anirban Dasgupta

Jul 2023 - Apr 2024

Research Assistant

Guwahati, India

- Engineered a novel **specialized video dataset** simulating real-world driving conditions using PyTorch, TensorFlow, and Keras to track **diverse head movements, eye gazes, and facial expressions**, and leveraged pre-trained networks and **LSTM models** to achieve over **97% accuracy** in real-time classification of distracted driving behaviors, optimizing model training time by 30% with Nvidia CUDA for efficient deployment.

Adobe

May 2023 - Aug 2023

Research Intern

Bengaluru, India

- Designed a framework using Python, PyTorch, and Hugging Face to **optimize LLM efficiency**, reducing costs by **40-90%** and improving quality by **4-7%** through **cost optimization** and latency reduction strategies.
- Implemented selection algorithms using **Integer Linear Programming** and the **Multiple-Choice Knapsack Problem** to optimize LLM models for document processing, deploying models with Docker and Kubernetes to reduce **processing time** by **24%**, improve output quality, and decrease token length by **20%** without sacrificing accuracy through **effective heuristics**.

Kaustubha Medtech Private Limited

Mar 2023 - Apr 2023

Software Developer Intern

Remote

- Developed a secure website using **PHP** and **MySQL** with user-friendly **registration, login, and password reset features**, achieving a **response time** of **<50ms**, which increased user engagement by **60%**. Also implemented a predictive analytics strategy for processing **medical verification requests**, reducing **verification time** by **37%** and saving over 30 hours per week.

PATENT & PUBLICATIONS

- Nishanth Kotla, Anirban Dasgupta, Rahimul Islam, “**Real-Time Classification of Five Visual Distraction Types During Driving Using Spatio-Temporal Features Through Frontal Image Sequences**”, **IEEE T-ITS**, 2024.
- Nishanth Kotla, S Shekhar, T Dubey, K Mukherjee, A Saxena, A Tyagi, “**Towards Optimizing the Costs of LLM Usage**,” **The NAACL Conference, Mexico City, Mexico**, 2024. [\[DOI\]](#)
- Nishanth Kotla, S. S. Shekhar, T. Dubey, K. Mukherjee, A. Saxena, A. Tyagi, “**SmaRt: Smart LLM Router for Optimizing Cost and Quality in Document Summarization Tasks**,” **Patent Approved** through Adobe, Application No: 12594, 2023.

PROJECTS

HobbyHive

Aug 2024 - Oct 2024

Group Project

- Built a **full-stack social networking platform** using **Django**, **React**, and **PostgreSQL**, allowing users to explore hobbies, post images, and create events, deployed on **Azure** for scalability and high availability.
- Implemented core features like **user authentication**, event scheduling, and a responsive UI, achieving **95% test coverage** with **Pytest** and **Jest**, and optimized API calls to reduce data retrieval time by **30%**.

Campus Trade Utopia: IITG Marketplace

Jun 2022 - Jul 2022

Coding Club IIT Guwahati

- Led the development of a **ReactJS** marketplace web app for **4,000 IITG students**, improving **image upload speed** by **37%** using **GPU acceleration** and integrating **Firebase** for secure authentication, achieving **99% uptime** and increasing **user interaction** by **25%**.