

SUMIT KANU

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EDUCATION:

Northeastern University, Boston, MA | **Master of Science in Computer Science** Sep 2024 - Apr 2026
Coursework: Algorithms, Programming Design Paradigms, Database Management System, Foundations of AI **GPA: 4.00**

National Institute of Technology Karnataka, India | **B.Tech in Electronics and Communication Eng.** Jul 2017 - May 2021
Coursework: C Programming, Data Structures and Algorithms, Computer Architecture, Image Processing & ML **GPA: 3.68**

TECHNICAL KNOWLEDGE:

Languages: Java, JavaScript, TypeScript, Python, SQL, C/C++, R, Bash, HTML, CSS
Frameworks: Spring Boot, Angular, React.js, Node.js, Flask, REST, PySpark, TensorFlow, Keras, AG Grid, Socket, OpenCV, Redux
Data & DevOps : Hadoop, Apache Spark, MongoDB, Redis, Amazon S3, RDS, Docker, RedHat OpenShift, Jenkins, Git, Kubernetes
Data Science & AI: Deep Learning, LLMs, Numpy, Pandas, MATLAB, Simulink, Tableau, Kibana

EXPERIENCE:

Citigroup, Pune, India | Application Developer Jul 2021 - Jul 2024
Full Stack:

- Developed highly modular web applications for data reconciliation, monitoring, and reporting, impacting 5000+ users.
- Led the integration of a design system to standardize UI/UX. Facilitated the retirement of Power BI and EUCs by developing end-to-end features for bulk record editing, live data synchronization, report creation with formulas, and report sharing.
- Drove Agile development and mentored new team members, contributing to growth and cross-functional collaboration.

Data Engineer:

- Developed a PySpark model to detect unfair market practices, iteratively refining features in collaboration with data scientists.
- Utilized Hadoop, Spark, and Hive to efficiently manage large trading-activity data, ensuring scalable and robust data processing.
- Built a Flask UI with Redis for database management, integrating Plotly for visualizing model results and enhancing user insight

Technology Used: Angular, Java, Socket.io, AG Grid, Microservices, Kubernetes, GraphQL, PySpark, Hadoop, Spark, HDFS, Tectia SSH

IIT Guwahati, Assam, India | Research Intern Jun 2020 - Jul 2020

- Simulated beamforming optimization with passive Intelligent Reflecting Surfaces (IRS) in MATLAB, achieving an 8dBm signal boost through convex optimization of IRS reflective phases.

IIT Gandhinagar, Gujrat, India | Research Intern May 2019 - Jul 2019

- Optimized a LoRa-based IoT network for campus-wide air quality monitoring. Developed wearable posture detectors and parking availability dashboards for enhanced environment and health monitoring.

PROJECTS:

Movie and TV show tracking platform: Binge Vault

- Developed a media tracker with React.js, Node.js, and MongoDB, featuring user authentication, personalized recommendations, and an OpenAI-powered chatbot for enhanced user interaction. Deployed via Docker and CI/CD pipelines.
- Optimized performance with Bull.js for queuing and Redis for caching, ensuring efficient API usage and scalability.

Technology Used: React, Node.js, MongoDB, Redux, Material-UI, Redis, Bull.js, Docker.

Secure stock trading platform: Trade Winds

- Built a stock trading platform with a Spring Boot backend, Angular frontend, and RESTful APIs for stock tracking and transactions.
- Integrated AuthO SSO authentication using the SPNEGO protocol, providing secure, single sign-on capabilities.
- Hosted the application using AWS: Amazon S3, and RDS for DB, ensuring high availability, and scalability.

Technology Used: Spring Boot, Angular, Kerberos, AWS, Amazon S3, RDS.

Novel deep learning architecture: CloudX-net

- Developed a novel architecture for cloud segmentation from satellite imagery, incorporating Atrous Spatial Pyramid Pooling (ASPP) and Separable Convolutions to improve accuracy by 2% over existing benchmarks.
- Experimented with multiple deep learning architectures, including RS-Net, CloudSegNet, CloudNet, and Deep Pyramid Networks, before innovating CloudX-net, which reduced the number of trainable parameters to half.

Technology Used: Python, TensorFlow, Keras, Numpy, Pandas.

ACHIEVEMENTS AND LEADERSHIP:

- Recognized at Citi with Gold, Silver, and Copper awards for taking ownership and outstanding delivery.
- Telescope Consultant(2024), Astro-Committee Convener(2021) and Telescope Coordinator(2020) of Astronomy Club NU and NITK.

PUBLICATIONS:

- "CloudX-net: A robust encoder-decoder architecture for cloud detection from satellite remote sensing images.", Elsevier. [\[Link\]](#)