# Sarthak Nandkumar Umarani

+1 (929) 928-7516 | @ snu2006@nyu.edu | LinkedIn | GitHub | New York, NY

## EDUCATION

**New York University** — Aug 2023 − May 2025
*Master of Science, Computer Science* — *New York, NY*
**Coursework:** Design and Analysis of Algorithms, Machine Learning, Big Data

**College of Engineering, Pune** — Aug 2017 − Jun 2021
*Bachelor of Technology, Electronics and Telecommunication; **GPA: 8.75/10*** — *Pune, India*
*Minors in Computer Engineering*
**Coursework:** Image Processing, Computer Architecture, Operating Systems, Computer Networks, DBMS, Deep Learning, Linear Algebra

## WORK EXPERIENCE

**Citigroup Inc. (Citibank)** — Jul 2021 − Jul 2023
*Full Stack Developer | Angular, Java, SpringBoot, SQL, Shellscript, Jenkins, Openshift, Python* — *Pune, India*
- Spearheaded development efforts on the **ORaaS platform**, a robust infrastructure hosting over 10,000 Oracle databases, ensuring **seamless operation** and **optimal performance.**
- Managed the entire application lifecycle, from building to promotion and deployment, leveraging **CI/CD tools**, resulting in **increased efficiency** and **reliability.**
- Led the development of an **API testing framework** using ShellScript, boosting the test coverage by **50%.**
- Implemented a user-friendly **chatbot**, effectively addressing FAQs, resulting in **30%** enhancement in user engagement and support.

*Data Engineer | Hadoop, PySpark, SQL, Hive, Impala, Flask, Redis, Python, Angular* — *Pune, India*
- Engineered prototypes in **Pyspark** for diverse trade surveillance scenarios, as a member of the **Data Engineering team**, streamlining **data analysis** and ensuring **compliance.**
- Innovated **key features** for a market-abuse detection scenario, bringing down the **false positives** by **70%.**
- Created a **user interface** for presenting prototype results. Additionally, automated the UI refreshment by writing **Python scripts,** leading to a reduction in manual workload by **90%.**
- Collaborated effectively in a cross-functional team of four to deliver a **code quality dashboard**, enabling users to analyze code quality reports across specific timeframes, enhancing **data-driven decision making.**

**Citigroup Inc. (Citibank)** — May 2020 − Jun 2020
*Summer Intern | HTML, CSS, JavaScript, BootStrap, JQuery, D3.js, Flask* — *Pune, India*
- Designed a **Model Assessment Dashboard** that presented statistics and **Key Performance Indicators (KPIs)** for behavioral trade surveillance models.
- Enabled **on-the-fly analysis** of model results, increasing **efficiency** and **reducing manual analysis time** by **80%.**

## RESEARCH AND PUBLICATIONS

**Child Cry Classification − An Analysis of Features and Models | Publication (6th IEEE I2CT)**
- Categorized child cries into distinct groups by extracting **auditory and speech features,** achieving an **80% accuracy** using **Random Forest** and **KNN** models.

**Cerelabs Pvt. Ltd.** — May 2019 − Jul 2019
*Research Intern | TensorFlow, Keras, Deep Learning, Python, Image Processing* — *Mumbai, India*
- Performed **text extraction** from images using a **Faster R-CNN model** for **text detection** and a **CNN** based on **ResNet18 architecture** for **text recognition.** The integrated model achieved an **accuracy** of **83%.**

## ACADEMIC PROJECTS

**Bird Song Classification** | *Machine Learning, Deep Learning, Speech Processing* — Jan 2021 − May 2021
- Trained a **Convolutional Neural Network (EfficientNet architecture)** on **Mel Spectrogram images** extracted from bird songs, securing an **accuracy of 97%.**
- Further improved accuracy by **2%** through optimization of CNN hyper-parameters using **Taguchi methodology.**

**Covid-19 Detection using Chest X-Ray Images** | *Deep Learning* — Nov 2020 − Dec 2020
- Trained a **CNN** for classifying Chest X-Ray Images into **Covid-positive** or **negative** categories, achieving an **accuracy** of approximately **98%.**

## TECHNICAL SKILLS

**Programming Languages:** C, C++, Python, SQL, Java
**Libraries:** Scipy, Numpy, Pandas, NLTK, Tensorflow, PySpark, Matplotlib, SQLAlchemy, Flask, Keras, OpenCV
**Web Technologies:** HTML, CSS, Bootstrap, JavaScript, Angular, D3.js, SpringBoot, TypeScript
**Tools and Databases:** Anaconda, Git, JIRA, Jupyter Notebook, Jenkins, Openshift, MS Office, MySQL, Postgresql

## LEADERSHIP, AWARDS & CERTIFICATIONS

- Secured **11th rank (Team Leader)** among 3000+ teams in the cyber security hackathon, **HCL HACK IITK 2020** organized by IIT Kanpur.
- Recipient of **two Citi Bronze Awards** - for taking **ownership** and **timely delivery** of the project.
- **Event head at Mindspark COEP** - Led an event named Microapps in Mindspark 2019.
- **Certifications:** Deep Learning -NPTEL (Grade - 100%) | ML Specialization - Coursera | DL Specialization - Coursera.