**AKHIL RAJ**

New York, NY **|** 516-979-6593 **|** [akhil.raj1997@gmail.com](mailto:akhil.raj1997@gmail.com) **|** [linkedin.com](https://www.linkedin.com/in/akhil-raj-810261255/) **|** [github.com](https://github.com/Akhil-Raj)

**EDUCATION**

**Cornell Tech (Cornell University)**, New York, NY August 2023 - August 2024

***Master of Engineering in Computer Science*** (Merit Scholarship)

**Relevant Coursework:** Data Science in the Wild - A+, NLP Research(Independent Study) - A+, Computer Vision - A

**Indian Institute of Technology Kharagpur**, Kharagpur, India | GPA: 3.78/4.00(WES) May 2015 - May 2020

***Integrated BSc/MSc in Mathematics and Computing***(Merit Scholarship)

**Relevant Coursework:** AI, Statistics, Programming and Data Structures, Data Analytics, Design and Analysis of Algorithms, Deep Learning

**TECHNICAL SKILLS**

**Programming Languages**: Python, Java, C, C++, GoLang, MATLAB, Google AppsScript

**Web Technologies**: HTML5, CSS3, ReactJS, NextJS, TailwindCSS, JavaScript and ES6, TypeScript, AWS Cloud(EC2)

**Frameworks / Libraries**: PyTorch, OpenCV, Playwright, RAG. Additional Knowledge : Electron, Apache Spark, Keras, CUDA, Hadoop

**Databases**: MySQL Database. Additional Knowledge : Weaviate, Supabase

**APIs**: Snowflake APIs, Amazon Redshift APIs, FacebookAds APIs, Tally APIs, Amazon Athena APIs

**Other Technologies/Tools**: Git Source Code, Temporal, Vim, Linux Shell, Docker. Additional Knowledge : Kubernetes(containerization)

**EXPERIENCE**

**Cornell Tech and Weill Cornell Medicine (Collaboration), NLP Researcher,** New York, NY October 2023 - Present

• Achieved **90.22%** accuracy with [**NN DeID**](https://github.com/ar2427/unsupervised-text-deidentification?tab=readme-ov-file#-unsupervised-text-deidentification-), pioneering text anonymization on a new medical dataset using **TAPAS** & **RoBERTa**

• Increased the efficiency of model training by more than **66%** on **Weill Cornell Medicine’s** private medical dataset of about **15 million** rows of data

• Increased the number of text anonymization **NLP** pipelines by **50%**, utilizing **Python, PyTorch**, **Pandas, TailwindCSS, ReactJS, NextJS**

**Cornell Tech, Startup Studio -** [**RapidReview**](https://github.com/GuralTOO/File_store_server?tab=readme-ov-file#rapidreview)**, Tech Lead,** New York, NY November 2023 - March 2024

• Made the research process **30%** more efficient by coordinating a team of **4** to create a product which made the Literature Review Process **2-5X** faster

• Improved research papers’ processing speed by about **38%** by building a queuing system using queuing and concurrency

• Tech stack used : **ReactJS**, **Python**, **Weaviate**, **Supabase**, **AWS, RAG**

**Amigo Softcom LLP, Founding Full Stack Software Developer,** Gurugram, India June 2022 - June 2023

• Led a cross-functional team of **10** to boost the ETL pipeline count by **50%** by transferring data to Google Sheets using data source APIs

• Implemented **GoLang** data extraction with **Temporal** for service orchestration, **MySQL**, **Electron** framework, **CI/CD**, and data source **APIs**

• Reduced the client-side latency of frontend by **33%** by reducing rendering count in **ReactJS** and **Google AppsScript**

• Single-handedly made the testing process **10X** quicker by automating the manual testing process of **ETL** pipelines using **Microsoft Playwright**

**HumaneAI PVT. LTD., Founding Full Stack Software Developer,** Bangalore, India May 2021 - May 2022

• Led the company through **3** strategic pivots, adapting to market dynamics, customer feedback, and technical challenges

• Lead the founding team of **4** developers to spearhead the **ideation, planning, and execution** of an advanced billing automation system

• Played a pivotal role in developing the product from concept to Proof of Concept (POC) stage. Infra Tech Stack : **Android Studio** and **ReactJS**

**IBM, Full Stack AI Developer,** Bangalore, India August 2020 - April 2021

• Enhance client's [VNF placement](https://docs.google.com/presentation/d/1QSi3JH_fIK9CA3OBEn3SM7CXpP6Ss6uW/edit?usp=sharing&ouid=111969838530113054823&rtpof=true&sd=true) efficiency by **28%** by integrating [**Optaplanner**](https://docs.google.com/presentation/d/1Bv01P0r-Dj_3Je6gWh7a2zINyb9WVh5w/edit?usp=sharing&ouid=111969838530113054823&rtpof=true&sd=true) constraint solver to develop **rightsizing** models

​​• Made the manual process of mapping regulatory documents **10 times** more efficient by automating it with NLP models to ensure compliance

​​• Tech stack and architectures : **Java, ReactJS**, **Carbon**, **Python**, **pandas, AlBERTa**, **DeBERTa**, **Transformers**

**Fractal Analytics, Computer Vision Researcher,** Mumbai, India Summer 2019

• Enhanced **object detection** mAP performance by **8.39%** on Fractal's internal dataset over a dataset of more than **28000** images

• Enhanced the number of Object Detection pipelines by **30%** by incorporating state-of-the-art **Deep Learning** models

• Reduced annual cost to the client by **13,000 USD** using Computer Vision based pilferage detection product

• Tech Stack and Architectures : **Python**, **PyTorch**, **Tensorflow**, **Jupyter**, and **Numpy**, **RCNN**, **FCOS**, **RetinaNet**, **YOLO**

**ACADEMIC PROJECTS**

**Capsico Health Care Pvt Limited, Full Stack AI/ML Developer**, India June 2023 - August 2023

• Extended models using **Python** and **BigQuery,** along with **AI/ML** nodes during runtime, enhancing system performance and reliability

**IIT Kharagpur, MSc Computer Vision** [**Thesis Project**](https://github.com/Akhil-Raj/Activity-Detection?tab=readme-ov-file#activity-detection) **:** [**Rhythmic Activity Detection in Kathak Dance’s Footwork**](https://docs.google.com/presentation/d/1QuDeMM4sGy-YQlDCYMNCW6B1eaw2ggdL/edit?usp=sharing&ouid=111969838530113054823&rtpof=true&sd=true) July 2019 - April 2020

• Detected Rhythm of an Indian Dance Form with just audio-less video footage using **image segmentation** done via **Gaussian mixture-models**

• Implemented state-of-the-art instance segmentation models **Mask R-CNN** and **SiamMask** using **Python** and **PyTorch**