

# Pranay Saha

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## PROFESSIONAL EXPERIENCE

### Yukin, Machine Learning Engineer (Contract)

May 2024 – present  
Remote

- Collaborated with the founding team developing models for personalized **Digital Avatars** with **realistic expressions and lip-synchronization**.
- Performed Experiments and Evaluation on **20+** open-source models for **Text2Speech, Speech Conversion, Voice Cloning, and Speech Synthesis** in a multilingual setup, performed optimization to reduce **RAM consumption by 50%**
- Designed and developed a **RESTful API** using **FAST-API** and maintained API documentation and specifications, resulting in a 20% increase in developer productivity.

### Proglint Solution, Computer Vision Engineer (Contract)

Mar 2024 – Jul 2024  
Remote

- Crafted a cutting-edge Proof of Concept (POC) for Person Reidentification and real-time tracking across a multicamera environment.
- Engineered and executed a highly precise model boasting a **98% precision** rate, significantly slashing **False Positives by 30%**.
- Streamlined algorithmic performance for enhanced speed and efficiency **reducing frame computation by 50%**, and leveraged advanced techniques such as multi-threading for seamless parallel processing.

### Indian Statistical Institute, Research Fellow

May 2023 – Jan 2024  
Kolkata, India

- We designed a **novel method for Person-Vehicle Reidentification** using a Neural Network trained on 4 datasets.
- Orchestrated the design and implementation of **data ingestion, model and inference pipelines**, Utilized pre-trained models, and fine-tuned them to improve performance on 60000+ images.
- Implemented and optimized **data cleaning pipelines, and reduced data labelling/Masking time by 30%**.
- Conducted a **comparative analysis, demonstrating an approximately 8% improvement in accuracy** compared to existing models (State-of-the-Art).

## PROJECTS

### FACE2COMIC

- Developed a **Generative model for generating comic avatars from original face images**. Leveraged the adversarial learning concept to achieve a **3%** noise reduction and seamless blend of realism and artistic expression.
- My contributions resulted in the successful development of a model for generating high-quality, comical avatars that can be used in various applications, such as social media and entertainment.

### Signature Verification

- Created a Neural Network for signature verification that achieved an impressive accuracy rate of **96.5%** on a dataset of 5000+ signature samples.
- Analyzed the generated embeddings for both real and forged signatures and compared them for verification, resulting in a **7% reduction in false positives**.

## EDUCATION

**B-Tech -CSE(AIML)**, Institute of Engineering Management  
CGPA-8.93

Nov 2020 – May 2024  
Kolkata, India

**Courses:** Data Structures and Algorithms, Machine Learning, Pattern Recognition, Database Management System, Object Oriented Programming

## SKILLS

**Languages** Python, SQL,Java,C • **Technologies/Frameworks** Git, GitHub, BitBucket, Docker, PyTorch, TensorFlow, Keras, Weights and Bias, Scikit-Learn, Open-CV, RESTful API, Fast-API

## POSITION OF RESPONSIBILITY

**GDSC AIML Lead**

Aug 2022 – Aug 2023

**E-Cell R&D Member**

Sep 2021 – Oct 2022

**Sponsorship Team Lead IEM MUN**

Sep 2022 – Oct 2022