Aayush Samal

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EDUCATION

SRM Institute of Science and Technology — Chennai, IN
Bachelor of Technology in Computer Science, Specialization in Big Data Analytics — *Aug. 2024 – Aug 2028*

EXPERIENCE

Head of Technical — July 2025 – Present
Pragati E-Cell — *SRM Institute of Science and Technology, Chennai*

- Led the design and development of the E-Cell's official website using Next.js, enhancing visibility of achievements and promoting upcoming events
- Spearheading the development of a full-stack web platform to connect student founders with peers and mentors, fostering entrepreneurship on campus
- Planned, organized, and executed multiple technical and non-technical events, ensuring seamless operations, high participant engagement, and measurable impact

Technical Member — Sep. 2024 – Present
NextGen Intelligence Club — *SRM Institute of Science and Technology, Chennai*

- Contributed to the enhancement of the club's website using Next.js and Tailwind CSS, improving performance and user experience
- Supported event organization and provided technical assistance, ensuring smooth execution of club activities

PROJECTS

F1 Embed | *Python, PyTorch, FastAPI, NumPy, pandas, scikit-learn, FastF1, Jupyter*

- Developed a Transformer-based deep learning system to generate compact, high-dimensional embeddings of complete Formula 1 racing laps using raw telemetry data streams
- Built REST APIs with FastAPI and integrated visualization dashboards for insights
- Implemented asynchronous task handling with Celery and Redis

F1 Lap Prediction | *Python, PyTorch, NumPy, FastF1, pandas, Jupyter*

- Developed a predictive analytics tool using LSTM models to calculate and visualize lap time deltas in Formula 1
- Applied data preprocessing and feature engineering to improve model performance
- Visualized predictions using Jupyter notebooks and matplotlib

QuickDraw CNN Classifier | *Python, PyTorch, NumPy, pandas, matplotlib*

- Implemented a Convolutional Neural Network trained on Google's QuickDraw dataset to classify hand-drawn sketches with high accuracy
- Experimented with various CNN architectures and hyperparameters to optimize performance
- Visualized training progress and classification outcomes with matplotlib

UnSaid | *Next.js, Express, Supabase, TailwindCSS*

- Designed and developed a gamified platform to promote healthy conversations around sex education
- Integrated Supabase for backend services, authentication, and database management
- Deployed the platform with responsive UI using TailwindCSS

DocAIx | *Next.js, Express, GroqAPI, TailwindCSS, Vercel*

- Built a comprehensive emergency medical guide and first-aid platform with both online and offline support
- Integrated GroqAPI to provide AI-powered first aid information during emergencies
- Deployed on Vercel with responsive UI using TailwindCSS

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL (Postgres/SQLite), JavaScript, HTML/CSS
Frameworks: React, Node.js, Flask, Django, Material-UI, FastAPI, Shadcn
Developer Tools: Git, Docker, Google Cloud Platform, VS Code, Visual Studio, PyCharm, IntelliJ
Libraries: pandas, NumPy, Matplotlib, PyTorch