

Pratham Shah

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Education

Veermata Jijabai Technological Institute

B.Tech in Information Technology — CGPA: 8.83/10 | Rank: 11/89

Jan 2021 – May 2024

Mumbai, India

Prakash College of Commerce & Science

Higher Secondary Education: 85.38% | MHT-CET: 99.86%ile

Jun 2018 – May 2020

Mumbai, India

Experience

CodeSwitch TextGeneration ↗

Research Intern at Speechlab, NTU Singapore — Dr. Chng Eng Siong

Jul 2023 – Dec 2023

Remote

- Developed a pipeline to facilitate **code-switch** (English-Malay) text generation through PaLM API.
- Leveraged the **Self-Bleu** metric for prompt quality assessment and applied the **multi-lingual BERTScore** to identify high-quality code-switch candidates.

SAP Labs India ↗

Software Developer Intern

Jun 2023 – Aug 2023

Bangalore, India

- Migrated code from SAP UI5 to **React framework** of OneSAP Portal, an application designed to enable **customer success solutions**.
- Integrated components required for **ticket-raising** and **live attachments** functionality within the application.

WordNet Linking ↗

Research Intern at CFILT lab, IIT Bombay — Dr. Puspak Bhattacharya

Nov 2022 – Apr 2023

Mumbai, India

- Researched an automated method for linking **multilingual Indo-WordNet** using synset embeddings.
- Incorporated **One-to-One** and **translation-based filtering** techniques to optimize candidate search space, achieving top-k similar synset retrieval efficiency in WordNets
- Developed a Streamlit interface enabling linguists to conduct mapping and visualize top-k matches seamlessly.

Google Summer of Code ↗

Open-Source Developer at Forschungszentrum Jülich

May 2022 – Sep 2022

Remote

- Custom method was devised to parallelize 1D and 2D **fully-distributed convolutions**. APIs for both implementations are **consistent** with other **mainstream libraries** and provide appropriate functionality.
- Performance was **improved** by adopting **MPI collective communication** (Bcast) instead of point-to-point non-blocking communication (Isend and Irecv) among the processes.

Projects

Spatial AI- OpenCV Foundation ↗

Developed a three-layer **pipeline in OAK-D Pro** to enhance depth estimation and disparity map generation.

Sep 2022 – Dec 2022

- Implemented a fusion method to generate a disparity map from monocular and stereo depth maps, resulting in a **refined depth map** with the benefits of both, achieving a real-time inference rate of **15 fps**.

Multi-Cam-ReID

- Implemented custom versions of **tracking algorithms** like Centroid, IoU, SORT, IoU predict, DeepSort.
- Devised own's **velocity model** which gives better results than the SORT on occlusions of multiple objects.

Jun 2022 – Aug 2022

Technical Skills

Languages : Python, C/C++, JavaScript

Developer Tools : Linux, Git, Github, CMake, Make, Anaconda

Miscellaneous : Computer Vision, Deep Neural Networks, MPI, Data Structures & Algorithms

Achievements & Co-curricular Activities

- Achieved **third rank globally** in the **Spatial AI International Competition**, 2022 hosted by OpenCV. ↗
- Winner of **Vision Beyond Limits, 2021** ↗ a deep learning competition at Techfest, IIT Bombay. 🏆
- Selected at the **Google Research Week**, 2024 and **Amazon ML Summer School**, 2022 ↗
- Achieved a **Top 5 position** in the **exploratory data analysis** datathon run by KJ Somaiya, Datazen.
- Core member and lecturer at **Society of Robotics and Automation, VJTI** ↗