

Satwik Kambham



satwik-kambham.github.io



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SUMMARY

Skilled software developer adept at deep learning architectures like PyTorch and Transformers. Experienced in building cross-platform applications using Tauri and Vue.js, with projects ranging from text editors to machine translation models. Proven track record of success in open-source communities, including contributions to TARDIS during Google Summer of Code 2022. Enthusiastic about exploring new technologies and tackling challenging tasks, seeking a role where I can utilize my technical expertise and passion for innovation.

EXPERIENCE

GOOGLE SUMMER OF CODE | OPEN SOURCE CONTRIBUTOR @ TARDIS

June 2022 – Sept 2022

- Developed an API to efficiently store simulation data into HDF files.
- Built data classes to improve monte carlo simulation pipeline.
- Performed unit testing and validation testing.
- Collaborated with the team to ensure code quality.
- Skills: Python, Numpy, Pandas, Astropy, Pytest, Numba, Jupyter

PROJECTS

PAPYRUS | RUST, VITE

- A elegant text editor built from scratch using Tauri
- Front-end powered by vite with vue and tailwind
- Tree-sitter integration for syntax highlighting
- Integrated terminal and LSP support

EN-HI MACHINE TRANSLATION | PYTORCH

- Transformer model trained from scratch on the OPUS100 dataset
- Introduced a new tokenization method based on BPE
- The model achieved good performance while having very fast inference times

UNDERWATER SCENE SEGMENTATION | PYTORCH

- Segmentation with the Segformer architecture on the SUIM dataset
- Focuses on semantic segmentation of underwater imagery
- Model demonstrated effective performance in delineating underwater scenes

LOW LIGHT OBJECT DETECTION | PYTORCH

- Low-Light Object Detection using DETR on the ExDARK dataset
- Trained on 10 different low-light conditions, efficiently detects 12 object classes
- The model was able to achieve state of the art results even in extreme low-light conditions by leveraging preprocessing techniques like CLAHE and Histogram Equalization

SKILLS

LANGUAGES

Python • Rust • JavaScript

DEEP LEARNING

Pytorch • Lightning • HuggingFace • Ray • ONNX • Wandb • Torchmetrics • Tensorboard • Matplotlib • Optuna • Numpy • Pandas • Gradio

APP DEVELOPMENT

Tauri • Electron • Next.js • Vite • Vue • React • Tailwind • Flask • TypeScript

TOOLS/PLATFORMS

Git • GitHub • GitHub Actions • Docker • Azure • Docker Compose • PostgreSQL • MongoDB

EDUCATION

CHANDIGARH UNIVERSITY

BACHELOR'S IN COMPUTER SCIENCE AND ENGINEERING

May 2020 - May 2024 | Punjab, India

VOLUNTEER EXPERIENCE

MICROSOFT LEARN STUDENT AMBASSADOR

Jan 2022 - Present

- Hosted events teaching technical concepts ranging from application development to version control.
- Led a collaborative writing initiative on removing bias in ML models and promoting accessibility in digital spaces.

COURSEWORK AND

CERTIFICATIONS

- Deep Learning
- Reinforcement Learning
- Software Engineering
- Database Management Systems