Ananya Kedlaya

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EXPERIENCE

CMTI (Central Manufacturing Technology Institute) November 2023 - Present

Project Associate

- **FullStack Web Application** in **Vue.js** and **FastAPI. Developed** a module for remote monitoring and maintenance of 6 machines with **real-time data.** providing a 50% reduction of excess labour in the manufacturing sector.
- **Python Desktop Application with PyQt** with **YOLO model development** for real-time weld setup to reduce rework by identifying defects during process
- **Documented responsive webpages** and applied coding practices after **requirement analysis.**
- **Wireframe** and **prototype** with **Figma**. Applied **UI** principles. Arranged content with **user experience** in mind.
- **Managing a team** of **2 interns**. Structured a **System Design and Architecture** to be followed.

PROJECTS

1. **Remote machine health monitoring and maintenance system**
   - Analysed a system design to use **Websockets** for real-time data, Frontend **Vue.js, state management** with **Vue Router** and **Pinia store** and Backend **Python FastAPI** to create **RESTful APIs. SQL** Queries.
   - Database migration from **MongoDB** into **PostgreSQL,** data population scheduled with **APScheduler**.
   - Used **Figma** to design a **user flow** and dashboard design, **light UI** and a focus on **User Experience (UX)**
2. **AI enabled automatic Weld Defect Detection System**
   - **YOLO** model created from scratch to build **Windows OS Desktop Interface** developed for a Thermal Camera using its **SDK** with **Python PyQt**. Applied **multithreaded programming** and **MVP architecture.**
   - Created and **annotated dataset** on **Roboflow**. **Thermal Image processing**, data augmentation.

Personal Projects

1. **Handwritten numbers classification using TensorFlow** - GitHub Repository
   - Used **TensorFlow** to build a **Convolution Neural Network (CNN)** to classify images of handwritten numbers. **ReLU and Softmax** as activation functions. Documented on Github
2. **Text to 3D mesh model using FreeNeRF -** GitHub Repository
   - Render a 3D mesh model from textual input that can be imported onto other engines
   - Pretrained diffusion model for generating images and FreeNeRF to generate 3D views from sparse input

EDUCATION

Acharya Institute of Technology - 7.82 cgpa August 2019- June 2023
Bachelor of Engineering - Computer Science and Engineering

SKILLS

- Frontend Development - HTML/CSS, Tailwind CSS, Javascript, React.js, Vue.js, JQuery
- Backend Development - Python FastAPI framework- CORS, JWT, SQLAlchemy, SQL
- Database - PostgreSQL, MongoDB
- Machine Learning - YOLO, CNN
- Image Processing- OpenCV, PIL
- Tools - Docker, Github, Git, Figma, WIX
- Python Application Development from SDK
- Python PyQt for GUI development

ACHIEVEMENTS

- Secured 1st place in Final Year Project Presentation in the Computer Science and Engineering Department
- Headed the Literary Club in college. Conducted debates and poetry sessions.
- Volunteered in Government School Beautification Projects to uplift the learning spaces of rural schools