Deepti Mahesh

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EDUCATION

Master of Science in Computer Science Aug 2022 – Jun 2024
University of Colorado Boulder USA

B.Tech in Computer Science | Graduated with Honors Aug 2017 – May 2021
International Institute of Information Technology Hyderabad India
- Editor (2019 - 2020), Writer (2017 - 2020) at college magazine, Ping!

SKILLS

- **Languages:** Python, C++, Rust, Java, C, C#, Bash, Elm (Functional), React, Flask, JS
- **Frameworks, Libraries & Databases:** PyTorch, TensorFlow, pandas, OpenCV, sklearn, scipy, CosmosDB (Azure), MySQL
- **AI Frameworks & Tools:** LangChain, CrewAI, GPT, Claude
- **Tools / Other Software:** Git, Docker, Kubernetes, AWS, Apache Hadoop and Spark, Vim, Adobe AE & PS, Unity, Blender, LaTeX

EXPERIENCE

Genius Sports Summer 2023, Jan 2024 – Feb 2025
Computer Vision Software Engineer Los Angeles, USA
- Worked in the **CV** and **broadcast augmentation** team dealing with court calibration, substitute detection, player track evaluation and temporal alignment of broadcast and stationary iPhone cameras using detections, pose, shape-matching algos and in-house ML libraries.
- Developed and optimized backend services for **large-scale, multi-camera capture** and processing pipelines, focusing on real-time video ingestion, synchronization, and calibration. Contributed to **high-throughput, low-latency data streaming pipelines** to process and synchronize multi-camera video feeds, ensuring seamless triangulation for pose and player tracking.
- Developed and optimized a **player auto-evaluation** system using heuristic and machine-learning metrics to improve CV tracking accuracy and reduce manual QA effort. Successfully integrated the above into a **Rust-based production pipeline**.
- Computed 2D coordinates of player heads from 3D tracks projected to broadcast frames and implemented **shape formation matching** algorithms using Delaunay, Hausdorff, Procrustes analyses. Narrowed alignment shifts to a margin of 5 frames with a **64.135% decrease in MAE** compared to mere distance shifts.
- Python | C++ | Rust | AWS | Docker | Git | Bash

Couture.ai June 2021 – June 2022
AI Platform Developer Bangalore, India
- **Automated ML workflow platform** to generate analyses of large data with the development of a feature-rich environment engaging in **resource-adaptive scheduling** and **hyper-parameter tuning** for training models.
- Adapted to scaling and serving infrastructure (**EKS with EFS for persistent storage**) in **2 weeks** and managed production releases.
- Integrated **SSO with Okta** and **Mesh Management with Kiali**. Established centralized security for key management, encryption, PKI system, and secrets storage with Hashicorp Vault within just a week.
- Python | ReactJS | Docker | Kubernetes | MySQL | Git

StanceBeam May 2020 – Aug 2020
Computer Vision Intern Bangalore, India
- Designed and built state-of-the-art, deployable models and statistical analysis for **detection of batting events in sport** aiding cricket academies with up to **95% accuracy**.
- Annotated and performed audio and video analyses of large data. Developed working algorithms with continual reference and evolution to **academic literature** in sports like tennis. Implemented a **Python-Azure stack** for deploy capabilities.

Happiest Minds Technologies May 2019 – July 2019
Data Analyst and Developer Intern Bangalore, India
- Considered **Business Intelligence**, Machine Learning and **Explainable AI** on a dataset and used tools such as Plotly Dash to create a prototype dashboard for a visual demo of **ML Workflow**.
- Interpreted results obtained through ML models with the utilization and understanding of libraries such as **LIME**, **Eli5**, etc.

PROJECTS

Spacecraft Design Jan 2023 – May 2023
System Design | Python | Telecommunication | Guidance, Navigation & Control
- **Subsystem Lead for GNC and Telecom** working towards L4 requirements of a NEO Prospector mission launching in 2028.
- Designed, down to part selection, the **hardware, protocols, assembly and scheduling** ensuring adherence to MRD and reliable delivery of functions including telemetry, command, tracking, attitude determination and control, and asteroid operations.

Terrain Generation and Crater Detection Aug 2022 – Dec 2022
Computer Vision | Independent Study | GenAI | ML | QGIS | LiDAR | U-Net
- Perfected Image-to-Image Translation with **Conditional GANs** for generating smooth DEMs from a sparse sketch containing only a network of rivers, ridges and level sets. Developed erosion, level-set and river-network synthesizers to aid in training and modelling.

Implicit Decoder Jan 2020 – May 2020
CV Final Project | PyTorch
- Implemented a GAN, CNN auto-encoder and decoder for better **Generative Shape Modelling** (**arXiv 2019**). The network learns implicit fields resulting in shapes with far better visual quality compared to other methods.

Kin Face Matching June 2019 – Mar 2021
Research Project | Honors | Tobii Eye Tracker | PyTorch | Interpretable ML
- Worked on novel developments in Kin Detection & Correlation with respect to face matching algorithms improving results to up to **80%**.
- Utilized LIME and perturbations for **Interpreting ML** black-box trust perceptions. **Wrote a paper for ETRA 2020.**