Shashank Prakash

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Education

Master of Science in Computer Science, Artificial Intelligence *May 2025*
University of Southern California, Los Angeles, CA **4.0/4.0**

Bachelor of Engineering in Computer Science and Engineering *Jun 2023*
Ramaiah Institute Of Technology,Bangalore,India **9.49/10**

Skills

- **Machine/Deep Learning**:Tensorflow, PyTorch, NLP, TorchVision,Onnx
- **Data Science**: SciKit Learn,Numpy,Pandas,XGBoost,BeautifulSoup
- **AWS:** EC2,S3, DynamoDB,Lambda
- **Web Development:**Golang,React,Flask,HTML,CSS

Languages:Python, C++, Java, C,Go
Databases: SQL,PostgreSQL,Neo4J
3D Rendering: Unity 3D,ISAAC SIM

Professional Experience

Sentiment Analysis Service in Go *May 2023 - Aug 2023*

- Develop a sentiment analysis service using Go, leveraging AWS Lambda for serverless computation and Amazon Comprehend for natural language processing.
- Use DynamoDB to store text inputs and sentiment results, with API Gateway to expose the service as HTTP endpoints.
- Implement CloudWatch for logging and monitoring to ensure efficient performance tracking and debugging.

Mesh2Splat: Deep Learning method to convert Meshes to Gaussian Splats *@ USC,LA* *Aug 23-Jan 24*

- Converting 3D shape representations like meshes and point clouds into graphics-ready gaussian splats which can enable efficient rendering and differentiable computations.
- Designed Mesh2Splat, an end-to-end framework for consolidating meshes or point clouds into gaussian splat predictions suitable for real-time rendering.
- Developed Objaverse-Splats, the first dataset of graphics shapes paired with high-quality gaussian splat representations.

Marker-Less Pose Estimation and Localization of Robots with Camera Feed *@IISc,Bengaluru* *Jan 23-July 23*

- Generated a high fidelity synthetic image dataset of the robot from its CAD model with ISAAC Sim and UNITY 3D,at **Indian Institute of Science**.Facing lack of suitable images with sufficient variations for model training generated synthetic images.
- Replaced real-world data and trained a YOLO based keypoint detection model thereafter used for markerless pose estimation and localization of the bot in an indoor environment.
- Integrated the model along with the custom built navigation and path correction stack into the Robotic Operating System.

Cloud Based Application for Early Detection of Oral Cancer *Jan 2023- June 2023*

- Designed a Deep Learning Application for Early Detection of Oral Squamous Cell Carcinoma,at **Ramaiah University of Applied Science**, from Whole Slide Images deployed on Amazon Cloud to aid pathologists .
- Utilized a YOLOv8 based model to detect structural and cytological features which serve as an indicator to the severity of the cancerous growth.

Machine Learning Intern @ *Hewlett Packard Enterprise,* *Chennai, India* *Sep 2021-Aug 2022*

- Led a 5 person team to design and deploy a React,Flask and PostgreSQL based webapp to provide data center security using Deep Learning to identify tailgating ,server rack position and track the status of critical servers.
- Reduced the intrusion detection turn around time from an 8 hour time period to 22 minutes.
- Localize employee location in video frame allowing to monitor employee actions in server rooms.

Research Intern @ *Hindustan Aeronautical Limited*, *Bangalore,India* *Sep 2021-Oct 2021*

- Implemented a C++ based tool to analyze and consolidate SAR images for post flight analysis.
- Developed a tool that takes in small patches of radar data, stitches and generates large reconnaissance maps.
- Validated the tool with on-site testing utilizing data obtained from a SAR mounted on an IAF plane reducing the analysis time to 30 minutes.

Publications

- *Quantum Computing - The Next Big Leap in the World of Computation* *June 2023*
  The International Conference on Electronics, Computing and Communication Technologies 2023
  - Quantum computing based solutions for Classification and Combinatorial problems using Qiskit and IBM Quantum.Achieved an exponential speedup utilizing the quantum algorithm over the existing classical solutions.