Shashank Shekar Holla

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EDUCATION

Indiana University, Bloomington — Bloomington, IN
Master of Science, Computer Science — May 2023
GPA: 3.7
Relevant coursework: Applied Machine Learning, Computer Vision, Advanced NLP, Deep Learning System, Applied Algorithm

Visvesvaraya Technological University — Bengaluru, KA
Bachelor of Engineering in **Electronics and Communication Engineering** — July 2011
Graduated First Class with Distinction, 78%

RELEVANT EXPERIENCE

Machani Robotics – AI Software Engineer Intern | Bengaluru, KA — Jan 2021 – Aug 2021

- Implemented Depth Estimation algorithm pipeline using stereo vision and achieved error threshold of 1 metre at 100 metre depth.
- Designed and implemented end-to-end pipeline for Blender facial animation to Humanoid face actuation with Nvidia Isaac toolkit.
- Built seamless integration of a Text-to-Speech engine, effectively mapping 74 acoustic phonemes to 12 Humanoid face actuation visemes for enhanced audio-visual synchronization and expressive facial animation.

Infosys Limited – Performance Test Analyst | Singapore/Bengaluru, KA — Jan 2016 – Aug 2019

- Performed workload modeling, performance baselining and performance bottleneck analysis for Application heap memory, database connections.
- Assisted in identifying top timed SQL, query optimization, performance tuning of web application.
- Developed GRU based Sequence-to-sequence Question Answering system achieving Perplexity score of 105.

Infosys Limited – Performance Test Engineer | Bengaluru, KA — Oct 2011 – Jan 2016

- Assisted in code optimization to reduce response time for Inventory Availability and Merchandise search by 60% and system capable of handling user Traffic up to 100 Transactions per second.
- Utilized logistic regression to develop a server utilization model, accurately classifying server health, achieving a sensitivity of 0.89 and aiding in early detection and intervention.
- Designed Splunk dashboard to visualize application's key performance indicators and present relationship with application server resource usage which enabled 35% reduction in monitoring and decision efforts.

PROJECTS

Stable Diffusion with Self-Guided Attention and ControlNet — GitHub

- Implemented Stable Diffusion with Self-Attention Guidelines (SAG) to improve image stability and ControlNet to enable user-specific input conditions for image generation. Built on GCP (Vertex AI) machine learning pipeline.
- Implemented and trained Stable diffusion to add stylistic features through Textual Inversion.

Roof Segmentation in overhead Satellite views — GitHub

- Designed convolutional encoder-decoder neural network model with skip connections to solve image segmentation of planar rooftops.
- Achieved Dice score of 54.8% in predicting roof segments from satellite images.

Monocular Depth Estimation and Mask Prediction — GitHub

- Designed and implemented a full Convolutional Encoder-Decoder model to predict monocular depth map and mask segmentations on home interiors.
- Achieved Dice coefficient of 98% and 59% for Mask and depth map predictions respectively.

SKILLS & CERTIFICATIONS

Languages:	C/C++, Java, Python, GNU Octave
Tools and Framework:	PyTorch, TensorFlow, Numpy, Pandas, Scikit-learn, OpenCV, React, Django, Jira, GIT, Vertex AI, Docker
Databases:	Oracle, Teradata, MS SQL Server, MongoDB
Cloud Platforms and others:	GCP, AWS, Microsoft Azure, Kubernetes
Certifications:	Deep Learning Specialization, deeplearning.ai, Introduction to Machine Learning, Coursera