PRIYANK THAKKAR

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EDUCATION

M.S. Artificial Intelligence | San Jose State University | California | GPA: 3.7/4.0 **(Aug 2021- May 2023)**
Courses: Intelligent Autonomous Systems, AI & Data Engineering, Machine Learning, Deep Learning, Natural Language Processing (NLP).

B.E. Computer Science and Engineering | Gujarat Technological University | India | GPA: 3.7/4.0 **(Jun 2016 - May 2020)**

SKILLS

Programming Languages/OS: Python, R, Java, C++, HTML, CSS, SQL, Linux, Windows, iOS.
Frameworks: TensorFlow, PyTorch, Keras, Pandas, NumPy, Scikit-learn, SciPy, NLTK, OpenCV, Matplotlib, Seaborn, Plotly.
Deployment: Kubernetes, Kubeflow, TFX, AWS, GCP, Docker Containerization, Streamlit.
Models: BERT, Neural Network, SVM, Regression, XGBoost, GBM, Clustering, Random Forest, GPT, Transformers, RNN, Attention.
Others: NodeJS, JavaScript, React, MongoDB, CI/CD, Jenkins, JIRA, Agile, NLP, Git.

PROFESSIONAL EXPERIENCE

SJSU Research Foundation |AI Graduate Research Assistant | California | *Python, Docker, ROS, OpenCV* **(Jan 2022 - May 2023)**

- Created a small autonomous vehicle by modifying the F1/10 car to provide mounting points for components like 2D Lidar, Teensy board, IMU 6500, and ZED stereo camera to behave 100% autonomously leveraging the Nvidia TX2 board.
- Prepared ZED Stereo Camera with ROS to perform object detection with depth visualization for auto navigation using Docker.
- Executed a 3-dimension map of surroundings to enhance the average precision of vehicle's localization and mapping in real-time, to estimate the distance traveled by car utilizing 3D point clouds of visual odometry stack.

Starlit Electronics | AI/ML Engineer | India | *Kubernetes, Docker, AWS, Python, Jenkins, OpenCV, NodeJS* **(Sep 2019 - Aug 2021)**

- Built a home security product prototype with functionalities like motion following, weapon detection, and real-time alerts with Chatbot on a third-party messaging app like Telegram with NLP features, saving 10% on the total POC budget.
- Automated CI/CD pipeline for NodeJS web application on Jenkins with GitHub integration to deploy it in Kubernetes pods in Kubernetes cluster on AWS EC2 using Docker hub with replication, auto-healing, and auto-scaling features.
- Managed a network of 3+ Unix servers breaking a monolith application into microservices and saving lead time by 20% for a system designed to handle database, server, and orchestration using Docker containers and Ansible.
- Implemented live and clear streaming camera at 60 fps while intrusion detection, also reduced the latency time by 6 milliseconds.
- Benchmarked 5 different deep-learning open-source algorithms to detect various weapons from the top view and side view images.

ACADEMIC PROJECTS

AI-based Exercise Tracking | *NodeJS, React, MongoDB, Python, AWS, Nginx, MoveNet, Docker* **|** www.grooot.live

- Trained 5 different exercise models to perform Human Pose Estimation on the user's video input using MoveNet from TensorFlow.js.
- Combined an exercise module with the user's login session to show their personalized exercise records using MongoDB, React, and NodeJS. Saved 10% of deploying time by managing the website on AWS with Nginx server using CI/CD.

Machine Learning Pipeline Orchestration | *Python, Kubeflow, Kubernetes, TFX, GCP, TensorFlow, Docker*

- Designed and built data pipelines and production-level Machine Learning infrastructure on the US Census dataset, using tools such as TFX, Kubernetes, Kubeflow Pipelines, TensorFlow, and the Google Cloud Platform(GCP).

Inference Acceleration of Traffic Sign Dataset with TensorRT | *TensorFlow, PyTorch, Python, OpenCV, TensorRT*

- Computed 12 different state-of-the-art models from TensorFlow and PyTorch model zoo and optimized the speed of these models' training by 12% using Intel's integration for computation.
- Increased the speed of inference by 10 times with INT8 scales of TensorRT with a result of 1431 Images/Secs and converted the trained model into TensorFlow Lite quantiles to deploy it into future mobile and software applications.

Natural Language Processing (NLP) Q&A Application | *BERT, Python, Streamlit, Haystack, Hugging Face, NLTK*

- Benchmarked 5 different BERT Q&A models from Hugging Face using a self-created dataset of 200 paragraphs and annotated 1000+ questions of SQuAD format using the haystack platform. Use the model with 82% accuracy on Streamlit for an easy grading process.

Regression Model for Energy Usage Intensity (EUI) | *BigQuery, XGBoost, OneAPI, Python, Google Data Studio (GDS)*

- Analyzed tree-based regression models like CatBoost, LightGBM, and XGBoost to get the best results on 100K+ data points.
- Optimized training time for Random Forest Regression by 50% with only a 0.1% reduction in accuracy with Intel's OneAPI library.
- Integrated BigQuery to project for performing live visualization dashboard of 76K data points utilizing Google Data Studio.