

# SUSHANT VIJAY SHELAR

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## EDUCATION

Texas A&M University, College Station, TX

Dec 2024

Master of Science in Computer Engineering, GPA: 3.5 / 4.0

**Relevant Coursework:** Machine Learning, Scientific ML, Deep Learning, DIP – Computer Vision, AI Robotics, Operating Systems, Software Engineering

## SKILLS

- **Technologies:** Python, C#, C++, JavaScript, React, Go, Java, Linux, GIT, Microsoft SQL Server, Kubernetes, Docker, MongoDB, API
- **Machine Learning:** Azure ML, TensorFlow, Pytorch, NLP, NumPy, LLM, Scikit-learn, YOLO, GenAI, OpenCV, LSTM, CNN, RNN
- **Data Engineering:** Power BI, AWS, ETL, Data Analytics, Data Science, Data Processing, Predictive Analytics, Big Data, Spark, RPA
- **Soft Skills:** Collaborative, Self-motivated, Problem Solving, Project Leadership, Creative Thinking, Good at planning and prioritizing

## PROFESSIONAL EXPERIENCE

Graduate Teaching Assistant - Texas A&M University, College Station, TX

Aug 2023 - Present

- Instructed in **MATLAB & Python** programming, as well as guide on topics of **Computer Vision** and integration of Lidar Sensors.
- Conducted lab sessions on controlling manipulator and ground robot leveraging **ROS2** for MXET 300/400 Mechatronics 1 & 2.
- Graded exams, assignments and labs cover topics like **computer vision**, **control systems** and calculating trajectory for Robot.

Graduate Research Assistant - Texas A&M University, College Station, TX

Mar 2023 - Jul 2023

- Engineered a web interface for robotic control, leveraging **JavaScript**, **HTML**, **CSS** for responsive design and monitoring.
- Implemented a software solution for robotic manipulation using **Python** and **PyTorch**, enabling a 6-joint manipulator to perform object detection and recognition tasks with high precision.

Senior Software Engineer - Coforge Ltd, Mumbai, India

Jan 2022 - Dec 2022

- Automated renewal transactions in Duck Creek App, **reducing underwriter's manual workload by 90%** for all insurance lines.
- Designed **XML** batch scripts for Duck Creek requests, automating various insurance policy transactions, such as Renewals, Rewrites.
- Analyzed business requirements, addressed identified bugs, and applied solutions using Duck Creek, C#, and Microsoft SQL Server.
- **Deployed Azure pipelines** in production and debugged regression test scripts to prevent code check-in failures in production.
- Presented newly constructed software to a large group of Stakeholders, showcasing its features and capabilities.
- Created and executed **SQL stored procs** & queries for a massive production insurance policy DB to **optimize** production performance.
- Excelled in an agile environment, offering technical support to colleagues, taking ownership of code merge, deployments, and reviews to ensure timely, high-quality work and troubleshooting production/development bugs.

Software Engineer (ML Engineer) - Accenture Solutions Pvt Ltd, Mumbai, India

Aug 2019 - Jan 2022

- Created **SQL batch scripts** to detect and rectify table discrepancies, averting Hard Integration Errors between CRM and Duck Creek Application, **reducing weekly P3 incident counts by 20 and avoiding P2 SLA breaches**. Conducted performance analysis of system.
- Utilized **ServiceNow** for tracking user requests and managing change requests during releases and provided technical support for Duck Creek users, resolving duck creek system issues, implementing data fixes, and performing **root cause analysis**.
- Developed and deployed **Azure ML** models for submission ranking in P&C insurance, integrating AI systems with Duck Creek App.
- Automated server monitoring reports using Python, SQL, Pandas, Splunk APIs, **reducing manual effort by 100%, saved 10 hrs weekly**.
- Managed production support/enhancement team in a comprehensive discussion on integration issues within project, involving client.

## PROJECTS

Next Word Prediction in Artificial Language using TensorFlow (Natural Language Processing)

(Academic Jan 2023 - May 2023)

- Developed a next word prediction model using transformers in TensorFlow to process an artificial language.
- Designed and trained a **transformer-based model** to predict next word in each sequence of artificial language. Applied techniques such as **tokenization**, **embedding** & **TextVectorization** layer to convert text data into numerical format suitable for transformer.
- Implemented an advanced deep learning model on a **single machine equipped with two GPUs**, leveraging TensorFlow's **tf.distribute** library and specifically applying **Mirrored Strategy for parallel training**.
- Boosted training efficiency and model capacity, enabling effective management of computationally intensive models.

Data Analysis and Machine Learning for COVID-19 Mortality Prediction:

(Academic Jan 2023 - May 2023)

- Led a team of 4 and performed **EDA** using pandas and NumPy to identify trends, correlations in dataset of approx. **253000 rows**.
- Applied **data cleaning**, removed 2500 outliers, engineered 10 new features, caused **model performance boosted by 8%**.
- Implemented Multiple Regression to predict global COVID-19 death rates with **accuracy of 90%**.
- Improved data comprehension by creating visually striking dashboards and reports with **Power BI**, elucidating global death rate patterns.

Dentistry – Sealants on Rails

(Academic Aug 2023 - Dec 2023)

- Developed **Ruby** app for Texas A&M Dentistry Program with aim of transitioning from paper-based to a fully digitized system.
- Harnessed trending technologies like **JavaScript**, **HTML**, Advance CSS to build interactive web application for Dentistry Program.
- Leveraged PostgreSQL for secure data storage and database management, designing an efficient schema for organizing Dentistry Program.
- Creates a statistics page for a healthcare dashboard to analyze patient data and hosted application on **Heroku**.
- Incorporated **Docker** in **CI/CD** pipelines for enhanced security and consistent environments across development stages.
- Automated testcases using RSpec and Cucumber to enhance application reliability and maintain high quality standards.

## CERTIFICATION

- Microsoft Certified: Azure AI Engineer Associate