SARVESH TELANG

Software Developer

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SUMMARY

Detail-oriented engineer with 3 years of experience in the automotive industry, specializing in data-driven and model-based software development. Proficient in Python, C++, MATLAB/Simulink, and SQL, with a strong focus on clean, maintainable code. Expertise in machine learning, MLOps, computer vision, and control engineering.

SKILLS

• Programming Languages: Python 3, C++, MATLAB/Simulink, SQL
• Machine Learning and AI: PyTorch, TensorFlow, Keras, MLOps (MLflow), Scikit-learn, NLP (Transformers, Hugging Face, Seq2Seq, BERT), LLM, XGBoost, LightGBM, Hyperparameter Optimization (Bayesian, Optuna)
• Big Data and Analysis: MySQL, PostgreSQL DBMS, Distributed Computing (DASK), Power BI
• Computer Vision: Open CV, Mediapipe
• Data Visualization: Matplotlib, Seaborn, Scipy, Plotly, Dash
• Data Engineering: CI/CD Pipeline, ETL, Data Warehousing, Data Integration
• Testing and Debugging: Pytest, Unit Testing, Vscode
• Cloud Services: Microsoft Azure, Azure ML
• Containerization: Docker, Kubernetes
• Automotive Technology: CANoe, CANalyzer, LIN, Ethernet, AUTOSAR, ISO26262
• Web Development: Flask, RESTful API, Streamlit, JavaScript, HTML, CSS
• Version Control & Collaboration: Git, GitHub, GitLab, Bitbucket, Confluence
• Operating System: Windows, Linux (Ubuntu), Bash Scripting
• Microsoft Office: Excel, PowerPoint, Word
• CAE and CAD Softwares: Catia V5, SolidWorks, AutoCAD, Ansys

CERTIFICATIONS

• Microsoft Certified: Azure Data Fundamentals (DP-900) • Docker Professional • IBM Data Engineering

LANGUAGES

• English (Fluent, level C1)
• German (Good, level B1)
• Hindi and Marathi (Native)

ACADEMIC PUBLICATIONS

• "Integration of ITS for Optimizing Sustainability and Efficiency in Commercial Vehicle Operations" (CVT Seminar 2023)
• "A Comparative Analysis of Visual SLAM and LiDAR-based SLAM algorithms for Autonomous Vehicles" (CVT Scientific Writing 2022)
• "Design and Optimization of Vaccum assisted Brake system for Light Commercial Vehicles" - International Journal of Engineering Research and Technology (IJERT, Vol. 10, Issue 9, Sept. 2021)

WORK EXPERIENCE

Working Student — Stuttgart-Feuerbach, Germany
Robert Bosch GmBH — Sept 2023 – Nov 2024
- Led the label quality assurance team within the Automated Driving Alliance (Volkswagen & Bosch) for Level 3 systems
- Managed quality control and feature engineering for label data used in ML models for lane detection.
- Improved label accuracy by 40% through regular feedback to suppliers
- Created weekly quality reports and error analysis to support continuous quality improvement
- Developed a Python-Tool for automated quality assessment and integrated it into the CI/CD-Pipeline
- Designed a web-application with dynamic dashboard (using Azure and SharePoint API) to perform quality checks in real-time

Data Science Intern — Schwieberdingen, Germany
Robert Bosch GmBH — Oct 2022 – Mar 2023
- Internship Topic: Enhancement of ADAS Hardware Development Process through Machine Learning, Cloud Deployment and Vehicle Sensor Data Analysis
- Implemented an AI-based knowledge discovery framework for the automotive camera's Manufacturing Process
- Migrated the Python version of multi-objective optimization algorithm, increasing the computation accuracy by 6%
- Performed debugging to scale the code using Dask over HPC clusters, ensuring functionality on Windows and Linux
- Deployed the code over Azure cloud using Azure ML and Docker to share and collaborate with external clients
- Analyzed vehicle measurements from SHT and Type K sensors at 20+ ADAS sensor mounting locations
- Developed a python tool to investigate the impact of temperature and humidity on driving behavior and sensor correlations
- Created a MATLAB tool to visualize driver profiles across different time, weather, and road conditions

Process Executive — Pune, India
NVIDIA — Apr 2021 – Aug 2021
- Performed image and video frame annotations for autonomous vehicles and their chassis control systems
- Worked on multiple annotation projects using NVIDIA HL2 platform, including Obstacle detection, VRU detection, LiDAR Free space detection, and Parking assistance

Technical Sales Engineer — Pune, India
Speciality Innotech Pvt. Ltd. — Oct 2019 – Oct 2020
- Assisted in developing customized polyurethane products including Vehicle Engine mounts, MPU buffers, and Felt panels
- Conferred with customers and engineers to assess equipment needs and determine system requirements
- Utilized CAD and CAE softwares (AutoCAD, Ansys, SolidWorks) to perform feasibility checks through structural analysis
- Managed B2B sales operations in the South India region, including prospecting, pitching, closing, and new business deals
- Secured 20+ new accounts and increased qualified leads by 16% in a year through targeted marketing strategies
- Oversaw the Order to Cash process for POs, including procurement, inventory management

EDUCATION

Master of Science in Commercial Vehicle Technology (Nutzfahrzeugtechnik) — Kaiserslautern, Germany
RPTU Kaiserslautern-Landau — Oct 2021 – Today
- CGPA (current): 1.9 (Good – German Grading System)
- Thesis: DNN-based Virtual Trajectory Generation for Autonomous Vehicles - Focus on Local Reference Path Computation
  - Developed a virtual trajectory prediction framework using a spatio-temporal road inference approach
  - Trained a Seq-2-Seq Transformer Model for robust lane keeping, solving a multivariate time series forecasting problem
  - Integrated the predicted trajectory into a vision-based MPC framework and simulated it in the CARLA Simulator
  - Grade 1.3 (Very good – German Grading System)

Bachelor of Mechanical Engineering — Pune, India
Pune University — Aug 2015 – Jul 2019
- CGPA: 8.1/10 (Very good – equivalent to 1.5 in German Grading System)
- Thesis: Design and Analysis of a Cost-Effective Cylindrical Robotic Arm
  - Grade 1.0 (Excellent – German Grading System)

PROJECTS

Sampling-based Motion Planning with Obstacle Avoidance for a 7-DOF Robotic Arm — Aug 2023 – Sept 2023
Control Engineering Seminar
- Implemented CBiRRT (Constrained Bi-Directional RRT) algorithm for efficient path planning of a robotic arm using MATLAB
- Computed the shortest and smooth path while avoiding obstacles using Task Space Regions (TSRs)

Motion Prediction in Autonomous Vehicles using a Neural Network Approach — Mar 2022 – Aug 2022
E-Mobility Competition
- Developed an FCN-Keras model utilizing vehicle trajectories captured from drone images of road intersections in Germany
- Optimized hyperparameters using Optuna and Bayesian methods to minimize displacement and heading errors
- Grade 1,0 (Excellent – German Grading System)

COVID 19 Dynamic Dashboard Development — Jan 2022 – Jun 2022
Enterprise Data Science
- Built a COVID-19 dashboard in Python, following the industry-standard CRISP-DM methodology
- Integrated real-time data extraction via RESTful APIs and created interactive visualization using DASH by Plotly
- Grade: 1.0 (Excellent – German Grading System)

Arduino-based Automation of a 4-DOF Cylindrical Robot Arm — Feb 2019 – Jul 2019
Tectonic 2k19 (Annual Technical Exhibition)
- Developed a Prototype of 4-DOF cylindrical robot arm using Arduino for automating the loading & un-loading on CNC Machines
- Programmed Pick-and-Place operations using Embedded C++ for precise control of servomotors and the end effector