Shravan Chandra

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Summary

Senior ML Engineer with 4+ years of production ML experience at Bosch Global Software Technologies, building scalable predictive maintenance systems, anomaly detection pipelines, and real-time inference infrastructure. Complemented by strong self-directed research in sign language recognition, and generative AI, including published IEEE work and full-stack ML applications. Proficient across PyTorch, TensorFlow, cloud platforms, and modern LLM frameworks. Passionate about shipping end-to-end ML solutions and mentoring teams.

Experience

Senior ML Engineer, Bosch Global Software Technologies – Bangalore, IN — Jan 2025 – Present

- Engineered a production predictive-maintenance pipeline using Autoencoder-based anomaly detection, cutting component testing cycles by 4 months and saving €300K+ annually.
- Led strategy as SPOC for 5+ automation and ML initiatives; supported cross-functional teams in data aggregation, visualization, and proprietary data extraction.
- Mentored 3 interns (now full-time ML contributors), establishing onboarding guides, code standards, and ML infrastructure best practices.
- Developing predictive failure analysis via Elastic Net regression on debounce signals to identify early-warning patterns for proactive maintenance.
- Collaborated across India, Germany, and China on ML architecture decisions and deployment workflows.

ML Engineer, Bosch Global Software Technologies – Bangalore, IN — Aug 2023 – Dec 2024

- Led migration of legacy ML infrastructure from TensorFlow 1.x → PyTorch, achieving 48% faster training and adding Azure GPU support.
- Implemented distribution-based drift detection using KL divergence and hypothesis testing with 95% detection accuracy for ECU sensor anomalies.
- Built and shipped Power BI dashboards for real-time model insight across 100+ ECUs, enabling faster test validation for distributed engineering teams.

Software Engineer, Bosch Global Software Technologies – Bangalore, IN — Aug 2021 – Aug 2023

- Developed automation tools and GUIs reducing manual data-analysis time by 45% for 25+ engineers.
- Increased PCB pricing estimation accuracy by 30%, reducing processing time from 90 min to 5 min through automated pipeline design.

Projects

ASL Instruction Generator – 2025 — shravnchandr/live-demo

- Built a real-time ASL learning agent using the Google Gemini API, generating step-by-step signing instructions from natural language input.
- Designed grammar-aware transformations (English → ASL structure) and deployed a public-facing tool accessible to anyone with a Gemini key.
- Tools: Python, Gemini API, JavaScript, AI Agents

Sign-Language Model Expansion & Temporal Modeling – 2024 — Exploratory Research Work

- Experimented with the MS-ASL200 dataset (200 signs, 49 samples/sign) to assess scaling challenges in signer diversity, temporal variation, and non-standardized motion patterns.
- Implemented CNN + transformer-based temporal models and achieved 80.85% top-1 accuracy, gaining insight into the limitations of current architectures when applied across highly diverse signers and dialects.
- Tools: Python, PyTorch, Transformers, MediaPipe

Progressive Sign-Language Learning App – 2023 — github/Duolingo-ASL

- Created a full-stack web application for ASL education using mastery-gated levels, quizzes, and score tracking.
- Tools: Python, Flask, HTML/CSS/JS

Diabetic Retinopathy Classifier with XAI – 2021 github/Diabetic-Retinopathy

- Achieved 96% Kappa Score using an Xception-based classifier on fundus images.
- Integrated Grad-CAM for lesion visualization to improve clinical interpretability.
- Tools: Python, Keras, OpenCV

Skills

Languages: Python, JavaScript, SQL, HTML/CSS

ML/DL: PyTorch, TensorFlow, Keras, Scikit-Learn, NLTK, Transformers, OpenCV, MediaPipe

GenAI: LangChain, Chroma (Vector DB), Prompt Engineering, RAG Systems, LLM APIs (Gemini), Agents

Data & Cloud: PySpark, Databricks, SQL, Pandas, Power BI (basic), Azure (basic)

Tools: Git, Docker (basic), Flask, Jupyter, Kubernetes (basic)

Publications

Dynamic Sign Language Translator (IEEE ICCAR 2022) May 2022

Shravan Chandra, Venkatarangan MJ, Jyothi TN

10.1109/ICCAR55106.2022.9782661

- Developed a lightweight sign-language recognition model using Mediapipe + XGBoost achieving 90%+ accuracy across 15 phrases.

Education

PES University, BTech in Electrical and Electronics Aug 2017 – May 2021

- CGPA: 8.5/10.0 | Final Year GPA: 8.75/10.0
- **Coursework:** Python, Calculus, Linear Algebra, Probability & Statistics, Machine Learning, Control Systems