GOTTIMUKKALA SYAMUEL RAJ

9133421433 • syamuel2002@gmail.com • www.linkedin.com/in/syamuelrajbgcs • github.com/Syamuel223

PROFESSIONAL SUMMARY

Project Engineer Intern candidate with strong foundations in control systems, documentation, system testing, data analysis, and engineering calculations. Skilled in Python, instrumentation concepts, process understanding, and technical communication. Experienced in developing end-to-end engineering solutions, preparing project documentation, conducting system tests, and collaborating with cross-functional teams. Demonstrated ability to learn compressor control applications, understand control philosophy, and support engineering deliverables with high quality and accuracy.

EDUCATION

Master of Technology in Machine Intelligence and Automation Expected in 2026

DR. B.R. AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY JALANDHAR 7.82 CGPA

Specialization Coursework: Control Systems, Machine Vision, Deep Learning, Robotics, Optimization

Bachelor of Technology in Computer Science and Engineering 2020 – 2024

JNTUA COLLEGE OF ENGINEERING KALIKIR 8.46 CGPA

Specialization Coursework: C-Programming**,** Python Programming, Machine Learning, Database Management System and Internet of Things.

TECHNICAL SKILLS

Control & Engineering Concepts: Control System Design, Engineering Documentation, Testing & Validation, System Architecture, Process Interpretation, Data Analysis

Software and Tools: Python, MATLAB (basics), PHP

CS Fundamentals: Algorithms, Data Structures, OOP, Complexity Analysis, Problem Solving

Web Technologies: HTML, CSS, Flask, Django

Database: MySQL

ML/AI: TensorFlow, Keras, Scikit-learn, NumPy, Pandas, Neural Networks

Distributed & Cloud: AWS, Docker, REST APIs, RAG pipelines

Tools: Git, GitHub, OpenCV, LangChain, FAISS

PROJECT EXPERIENCE

PREDICTION OF THERMAL CONDUCTIVITY OF EPOXY COMPOSITES USING DEEP LEARNING

Technologies: Python, TensorFlow, Keras, Scikit-learn, Bayesian Optimization Aug 2025-Dec 2025

- Built a Deep Learning model to predict thermal conductivity of epoxy–filler composites in cryogenic ranges using 364 engineered samples spanning 1.25–275 K.
- Designed an optimized DNN with L2 regularization and dropout, achieving R^2 = 0.977 and significantly outperforming classical analytical models.
- Implemented preprocessing pipeline with standardization, feature scaling, and log-transform for stable learning across 6 orders of magnitude.
- Used Adam optimizer + Bayesian Optimization for hyperparameter tuning to minimize RMSE and improve generalization.
- Performed thermal transport analysis showing relationships between filler conductivity, volume fraction, temperature, and phonon scattering**.**

- Research contributes to aerospace applications including satellite sensors, cryogenic instruments, and thermal interface material design.

DEEPFAKE VIDEO DETECTION SYSTEM Jan 2025 – Apr 2025

Technologies: Python, Streamlit, TensorFlow, OpenCV, Scikit-learn, Machine Learning, DFD (Deep Fake Detection) Dataset

- Modeled a deepfake video detection web application using Streamlit with real-time prediction capabilities.
- Trained a Convolutional Neural Network (CNN) on the Deep Fake Detection (DFD) Entire Original Dataset to classify manipulated video frames.
- Employed OpenCV for face detection and frame extraction, feeding cropped facial regions into the model for robust prediction.
- Achieved ~93% accuracy in distinguishing real vs. fake video content on validation data.
- Developed a user-friendly interface for uploading videos and visualizing prediction confidence scores with clear feedback.

AGRI INNOVATIVE Jan 2024 - Apr 2024

Technologies: Python, TensorFlow, MySQL, Flask, HTML**,** CSS**,** JavaScript

- Designed an agricultural optimization application using HTML, CSS, JavaScript, Flask, and MySQL, integrating machine learning models to process 88,000+ data points for smarter farming decisions.
- Achieved high model accuracy with Python libraries (NumPy, Pandas, Matplotlib, Scikit-Learn, TensorFlow), improving accuracy by 15%, reaching 99.00% for fertilizer and crop recommendations and 94.05% for disease identification.
- Optimized MySQL database and enhanced UX, reducing data retrieval time by 30% and designing a user- friendly web application with six main pages, increasing user engagement by 40%.

PROFESSIONAL EXPERIENCE

Deep Cognition, Bangalore: AI Data Annotation Specialist Jan 2024 – Jun 2024

- Updated and maintained 500+ customer records, ensuring data integrity and accuracy across all entries.
- Optimized data retrieval processes, reducing data lookup time by 15 percentage through systematic organization and automation.
- Corrected data entry errors with a 98% accuracy rate, minimizing duplication and ensuring consistent data quality.

CERTIFICATIONS

- Python for problem solving by CODECHEF.
- Supervised Machine Learning by Stanford University through Coursera.
- Full-Stack Web Development course completion certificate by TECHSAKSHAM.

ACHIEVEMENTS & ACTIVITIES

- GATE 2024 Qualified.
- Organized CSE Department Technical fest, by conducting Hackathons and different coding competitions.