

# SAI NIKHILESH KRISHNAMURTHY

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## PROFILE

Controls-Electrical Engineering professional with around 3 years of expertise in engineering, design, installation, and start-up of automation systems. Hands on experience in SCADA, PLC programming, Industrial Automation, software development, Servos, quality control, DFM, EPLAN and process validation.

## EDUCATION

### University of Wisconsin Madison

09/2022 – 05/2024

MS in Electrical and Computer Engineering

### Amrita University

08/2016 – 08/2020

Bachelor of Technology in Electrical and Electronics Engineering

## SKILLS AND INTERESTS

- **Hands on experience:** Siemens S7 1500 PLC, Beckhoff Twincat 3, Allen Bradley, Omron, Zenon SCADA, Siemens WinCC, PubSub, IOT, Data warehouses, Eplan, AutoCAD Electrical, Profinet, EthernetIP
- **Skills:** PLC programming, SCADA, MES, Software Development, VB.NET, C#, SCALA, Python, SQL, Machine Learning, Data Visualization, Data Analysis, Linux, Git, Power BI, Tableau, Ladder logic, servos.
- **Vision:** Cognex, Keyence, computer vision, OpenCV, segmentation, Fanuc

## EXPERIENCE

### Tesla

Austin, TX

Intern

05/2023 – present

- Led one of the teams to develop an interactive and scalable dashboard which displays data directly from **PLC to MOS transactions** by using custom developed Function Blocks that shows long running LIVE MOS transactions in the PLCs.
- Deployed the dashboard using **Grafana**, set up a system to help visualize the spikes in the transactions which enables the user to actively troubleshoot the error without manually checking the PLC tags saving \$xM in production and down time losses.
- Designed stations from scratch to production including Integration of sensors, IO modules, Barcode scanners, RFID readers etc with **Siemens 1500 PLC** and developed **Function blocks** in Ladder logic, HMI, Servos, faceplates, alarms, and recipes.
- Created a custom program block that reads 400+ bytes of data from a **Balluff RFID** tag reader and performs writing operation on specific allotted bytes locations with optimum memory allocations.
- Utilized **statistical process control** (SPC) to understand and solve assembly issues, performed root cause analysis investigations that identified and eliminated production tooling failure modes.
- Collaborated with site engineering for design, factory layout, process flow, PFMEA, NPI team to focus on **process improvement** and equipment reliability.

### University of Wisconsin Madison

Madison, WI

Research Assistant

08/2022 – 05/2023

- Researched and designed an alternate prognosis AI model improving gene risk predictions by **21%** involving neural embeddings & recurrent neural network using Pytorch, R, Docker.
- Created **Statistical** and ML models to predict the TFs binding sites for glucocorticoid receptor using ChIP-Seq and ATAC-Seq data.
- Wrote python scripts to solve a complex **Linear optimization** problem with gurobi optimizer that reduces features in essential Minseq peaks by 29%.

### Titan Company Ltd

Hosur, India

Senior Engineer

11/2020 – 06/2022

- Developed custom software applications and **PLC Ladder logic** to perform multiple tests on Apple iPhone back cases. Integrated the application with BALI server and deployed the application on-site.
- Identified bottlenecks in the existing model, **increased the part processing speed by 10%**
- Developed Dashboards and implemented ML and **Computer Vision** models to perform Anomaly Detection, Failure prediction and forecasting the life expectancy of a Riveting cylinder.
- Wrote executable scripts to automate the querying process from **SCADA** to Master DB to Slave DB with low latency and optimized memory consumption.
- Implemented preventive maintenance list and calibration strategies for all testing and **production equipment**.
- Designed multi-layered **HMI interface** using SCADA and integrated the application with I/O Mapping based on customer requirement.