Sunkuru Jagabandhu Patro

Passport: V8758754 | **Work permit:** German | **Date of birth:** 20/05/1990 |

Place of birth: Dadaralunda,Odisha, India | **Nationality:** Indian | **Phone number:**

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ABOUT ME

I'm a seasoned software & systems architect with a strong track record in developing and leading complex robust toolchains, diagnostic solutions that bridge embedded systems and enterprise applications, and data pipelines.

My journey spans startups to global automotive leaders. I am passionate about developing software solutions that not only meet technical requirements but also deliver value to users. By leveraging my skills in C#, MATLAB, and Python, I aim to create systems that are scalable, efficient, and capable of handling complex computational tasks. My approach combines technical expertise with a commitment to quality and continuous improvement, ensuring the delivery of robust and reliable systems. I have consistently delivered impactful solutions across the development lifecycle, from embedded systems to enterprise-grade applications.

My core competencies:

System & Software Architecture: I design and architect robust, modular toolchains used across global teams to integrate software components with high reliability and top-tier performance. I've Designed scalable architectures that standardized workflows, boosted collaboration, and simplified maintenance. Led adoption of Agile practices i.e. SysML, UML, test-driven development and executed CI/PLM pipelines using Jenkins, Polarion, JIRA, and Confluence. This ensured automated builds, full traceability, and faster delivery cycles.
Measurement Data Analysis: Engineered solutions for processing and visualizing complex measurement data, including torque and speed maps to Multi dimensional maps, to support data-driven decision-making.
Calibration, Monitoring & Diagnostics: Developed and maintained tools for real-time calibration monitoring and diagnostic flashing, enhancing vehicle performance and compliance with industry standards.
Automation & Test Systems: Expertise in developing automation frameworks and test systems using C#, and MATLAB App Designer, facilitating efficient verification and validation processes.
System Integration & Testing: Skilled in integrating software components into cohesive systems, conducting thorough testing to ensure functionality and performance meet specified requirements.
High-Performance Computing (HPC): Led initiatives to leverage HPC environments for analyzing large-scale calibration and measurement datasets, significantly reducing processing times and improving efficiency.

WORK EXPERIENCE

VALEO EAUTOMOTIVE GMBH GERMANY – ERLANGEN, GERMANY

INTEGRATION & APPLICATION TOOL DEVELOPMENT ENGINEER – 07/01/2020 – CURRENT

I combine software engineering, data analysis, and automation to drive smarter, faster, and more reliable decisions in complex engineering environments with building high-impact analytical tools and automated solutions for automotive and industrial systems.

* I lead the design and development of a custom-built Measurement Class Library, a MATLAB-based engine that generates detailed speed-torque and multi-dimensional maps. These maps are used by engineering teams around the world to analyze system accuracy, identify losses, optimize energy usage, and generate automated technical reports.
* I developed interactive user interfaces in MATLAB that allow engineers to explore and refine these maps easily. These tools have helped reduce manual work, improve design iterations, and speed up development cycles.
* To handle large datasets from vehicle testing and calibration, I implemented automated post-processing pipelines that run on our High-Performance Computing (HPC) cluster. This brought massive gains in efficiency, reducing processing time from hours to minutes, replacing local execution and saving at least 2 days of manual work and resource blocking per job.
* Developed a versatile UI application to automating KPI report generation for high-profile clients like VW base+, VW base−, and DAIMLER. Every time data is submitted through our CRETA system, clients receive immediate, accurate, and visually clear calibration reports with no manual work involved.

* Contributed extensively to the CRETA ecosystem, developing in-house add-ons, supporting system administration, and continuously improving the platform based on user needs.

CONTINENTAL AG INDIA – BANGALORE , INDIA

TECHNICAL SPECIALIST – 10/2016 – 12/2019

* I led a team of six engineers focused on aftermarket diagnostic data. We analyzed and parsed OEM data, converting it into a proprietary format for integration into a large-scale database.

* I spearheaded the development of ODX and PDX parsers and successfully decoded GM's HTML data format under tight deadlines.

* My role also involved international collaboration, including travel to the UK for vehicle testing and support. Additionally, I took on the responsibilities of Scrum Master, ensuring timely delivery of high-quality code and fostering team development through training and motivation.

HYUNDAI MOBIS – HYDERABAD, INDIA

SENIOR RESEARCH ENGINEER – 03/2015 – 10/2016

* I was responsible for tools enabling ECU communication. I developed bootloaders and flashing tools, including a diagnostic suite for braking and suspension systems.

* Notably, the flashing tool I developed is utilized from development through to End-of-Line (EOL) testing.

* I also designed the hardware interface layer to support various communication devices and involved in to define the CAN OSI architecture, facilitating seamless data communication between standalone C# applications and hardware components.

THINK EMBEDDED PVT LTD – HYDERABAD, INDIA

SOFTWARE ENGINEER – 03/2012 – 03/2015

* I began my career at a startup, developing tools such as TPMS, CAN Bus Analyzers, proprietary IDEs, compilers, and early calibration and monitoring utilities.
* This foundational experience honed my skills in embedded systems and toolchain development.

EDUCATION AND TRAINING

2016 – 2018 Vellore, India

POWER ELECTRONICS AND EMBEDDED SYSTEMS Vellore Institute of Technology

Website https://vit.ac.in/ | **Level in EQF** EQF level 7

2007 – 2011 Berhampur, India

COMPUTER SCIENCE AND ENGINEERING Biju Patnaik University of Technology, Rourkela

Website https://www.bput.ac.in/ | **Level in EQF** EQF level 6

LANGUAGE SKILLS

Mother tongue(s): **ODIA**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
GERMAN	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

SKILLS

Python (computer programming) | Good familiarity with MATLB, Simulink | App design | Programming in C; Cpp, Csharp, Java and Python | Microsoft .NET Programming (CSharp) | software architect | Requirement engineering | ISTQB Foundation Level Certification | IREB Requirements Engineering Foundation Level | CPSA Foundation Level | Systems Engineering process | INCOSE ASEP