

Yarlagadda Bala Manikanta

Simulation Engineer

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PROFESSIONAL SUMMARY

- Robotic Simulation Engineer with 3 years of experience in BIW robotic simulation, and virtual manufacturing engineering.
- Currently working in Envision Integrated services as a Robotic Simulation Engineer.
- Experience in Robot Selection, Gun Selection, Weld Spot Distribution, OLP Generation(Fanuc) & Robot Teaching
- Fully Conversant with Various BIW Process e.g Revit welding Sealant Application, Stud Welding, Arc Welding, Spot Welding & Material Handling.
- Worked on Different Kind of Tools, Fixtures & End effectors e.g Geo Welding Fixtures, Handling Grippers, Welding Gripper, Guns (C- type & X- Type) and Gun with Gripper etc.
- Experience of Building Completely New Work Cells from Given Process to Layout Finalization.
- Good Knowledge of Process study with cycle time Calculation.
- Expertise in Siemens process simulate

Work Experience

- Envision Integrated Services Pvt. Ltd. (7th March 2022 – 27th Feb 2025) as BIW robotic simulation engineer.

Software Knowledge

- Process Simulate
- Delmia V5
- Visualization Mock-up
- Catia V5
- Auto CAD
- Ms office

MAJOR PROJECT HIGHLIGHT'S

CSG – Brampton_J4U (Underbody Assembly)

- Delivered robotic simulation for an 8-robot (Fanuc & Nachi) BIW underbody cell using Process Simulate.
- Weld spot distribution, Panel feasibility, Gripper & Fixture validation, Robot Position, Gun finalization
- Giving Kinematics to Gun, Gripper and Fixtures
- Collision free path creation (for spot welding, Sealing, Ped welding& handling and Path)
- Attributes filling and Robot documentation like DCS, Hard stop, maintenance pose)

Axiscades – Vestas V236 Blue Marlin Mk01

- Performed CAD validation and BOM integrity checks for product updates.
- Verified assembly feasibility and process simulation using PWIs.

- Conducted dynamic flow simulations, tool accessibility validation, and ergonomic studies to enhance safety and efficiency.
- Developed rework/retrofit instructions ensuring smooth implementation of design updates.

Hirotec – TATA P-500 (Closures: RDRH & RDLH)

- Delivered robotic simulation for 18-robots (Kawasaki) BIW Closures cell using Process Simulate.
- Weld spot distribution, Panel feasibility, Gripper & Fixture validation, Robot Position, Gun finalization
- Giving Kinematics to Gun, Gripper and Fixtures
- Collision free path creation (for spot welding, Sealing, Air welding, Ped welding& handling and Path)

Group of Engineers – Ferrari F-162 (Body Sides, Framer)

- Managed 3-robot(ABB) body-side cell, delivering collision-free robot path planning, attribute filling, and technical process documentation.

Moldek – Autotek BEV EJ Rear Cradle (Underbody)

- Managed 8-robot(Kuka) ARC welding simulation cell for rear cradle assembly using Process Simulate.
- Arc bead creation& Projection, Panel feasibility, Gripper & Fixture validation, Robot Position.
- Giving Kinematics to Gripper and Fixtures (Trunion and Turn Table).
- Collision free path creation (for Arc welding & handling Path)

Tata Technologies – JLR X900 (Body Sides)

- Supported BIW pre-engineering robotic simulation, including product validation, gun selection, and process validation.

EDUCATION

Bachelor of Engineering in Mechanical Engineering

SRK Institute of Engineering and Technology (Affiliated to JNTU Kakinada)

June 2015– Dec 2018

Diploma in mechanical engineering

A.A.N.M. & V.V.R.S.R. Polytechnic, Gudlavalleru

June 2012-April 2015