NIKHIL PAUL FRANCIS

M.Sc. SYSTEMS ENGINEERING FOR MANUFACTURING

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PROFILE

Systems Engineering enthusiast currently doing master's degree in Systems Engineering, with more than a year experience in Model-Based Systems Development in Automotive Sector, and with domain knowledge in Mechatronics Engineering, I am actively seeking full time positions in the field of systems engineering .

PROFESSIONAL EXPERIENCE

11.2023 – 05.2024   ### Master Thesis: Simulation and evaluation of Diagnosis Concepts using MBSE

Robert Bosch GmbH, Schwieberdingen, Deutschland

Tasks / Responsibilities:
- Developing dynamic system architecture of E-Axle, illustrating interactions among key components such as inverter, E-Machine and rotor position sensor for various use cases in IBM Rhapsody.
- Developed a Python program to manage system states based on user input to the system architecture
- Modelling functional safety concepts according to ISO 26262, optimizing safety measures.
- Decomposition of the E-Axle system (logical architecture) into subsystems and assemblies and assigning the system functions to each technical element (technical architecture).
- Establishing traceability and validation between requirements, system function and technical components.

01.2023 – 07.2023   ### Internship: Simulation of Startup Sequence of E-Axle System by MBSE

Robert Bosch GmbH, Schwieberdingen, Deutschland

Tasks / Responsibilities:
- Definition of technical requirements in E/E architecture of E-Axle and electric power train systems.
- Modelling and analysis of stakeholders requirements (requirements management) and deriving user functions and system functions (functional architecture)to be performed by the system.
- Worked closely with different engineering domains in planning, documenting, managing, integration and validation of the system.
- Detailed understanding of SysML diagrams and its usage in different views of RFLP methodology.

06.2022 – 02.2023   ### Student Assistant: Modeling Sequence diagram for interaction of digital twins

Otto Von Guerike University, Deutschland

Tasks / Responsibilities:
- Modelling dynamic sequence diagram based on digital twins representing different machining operation performed on a work piece in the production line of a smart factory.
- Demonstrated the interaction between digital twins with help of Asset Administration Shell with the help of python.

10.2021 – 02.2022   ### Master Project Work

Otto Von Guerike University, Deutschland

Tasks / Responsibilities:
- Design of Asset Administration shell/ digital twin of automated manufacturing of plastic sheets following VEE system model life cycle.
- Development of PPR model for Production System.
- Preparation of Bill of Material and Bill of Operation.
- Preparation of Entity Relationship Diagram for various components involved in production system.

03.2019 – 12.2019	**Graduate Trainee Engineer : Project management**

INKEL Kerala, India

Tasks / Responsibilities:
- Planning, managing and prioritising the work based on deadlines.
- Delivering presentations on progress of work
- Preparing a detailed report of various tests on HVAC equipment
- Collaborate with fellow project team members to ensure the completion of projects.
- Validate the accuracy of the drawing by aligning it with conditions at the construction site.

E D U C A T I O N

10.2020 – present	**M. Sc. in Systems Engineering for Manufacturing , Grade 1.9/1.0**

Otto Von Guerike University, Deutschland

08.2014– 05.2018	**B.Tech. Mechanical Engineering , Grade 8.02/10 CGPA**

Mahatma Gandhi University, India

S K I L L S

- System Modeling (MBSE)
- IBM Rhapsody
- SPES Methodology
- SysML
- VEE Model
- ISO 26262, ASIL

- Matlab
- Python/ C++/C
- Node Red
- CATIA V6
- MS Office
- Agile /Jira

- Problem Solving
- Team Work
- Flexibility
- Critical thinking

L A N G U A G E

- English - Full professional fluency
- German - intermediate professional fluency

H O B B I E S

- Cricket
- Watching Movies
- Music
- Current Affairs