

Raghul Mohankumar

Electrical Engineer

(NOC 2133)

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 Click here to view portfolio website

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An active electrical engineer with 8 years of extensive practical and technical experience in a competitive and international context.

Analytical and professional specializing in new product development and engineering change management of electrical architectures.



AREAS OF EXPERTISE

- Components Selection
- Variable Frequency Drives
- Cable Sizing
- Lighting Design
- Electrical Circuit Design
- Wiring Harness Design
- Value Addition / Value Engineering
- BOM Creation
- Product Analysis & Development
- Hardware Testing
- Failure & Risk Analysis
- FRACAS & DFMEA
- Electrical Circuit Design
- Supplier Selection & Follow-up
- Product Life-cycle management
- Product data management
- Product change management



LANGUAGES KNOWN

- English
- Tamil
- Telugu
- Hindi
- Kannada



EDUCATION

2021 - 2021

Master's Degree in Electrical Engineering,
The University of New Brunswick.
(Courseware includes Project Management)

 Fredericton, NB, Canada

2008 - 2012

Bachelor's Degree in Electrical & Electronics Engineering,
Anna University.

 Chennai, TN, India



WORK-STUDY EXPERIENCE

2021 - 2021

THE UNIVERSITY OF NEW BRUNSWICK

 Fredericton, NB, Canada

Research Assistant (Work - Study Program) (October 2021 to December 2021)

- Coordinating and supporting the development of a ground based wind imaging instrument (Imager) for an university based Cube Satellite project.
- Design and modelling of thermal sensing system of wind imaging instrument to ensure the virtualisation of real environment.
- Engineering Calculation based component selection for the Test Environment set-up.



PROFESSIONAL EXPERIENCE

2014 - 2021

KONE CORPORATION

 Chennai, TN, India



Senior Electrical Engineer (October 2018 to February 2021)

- Managing the engineering changes in Electrification Architecture by driving and implementing actionable and targeted change management plans for prototyping and piloting at production and field respectively.
- Perform change impact assessments for potential risks, critical to quality factors and production feasibility.
- Strategise with key stakeholders such as suppliers, frontline and production co-ordinators for driving and executing the change requests throughout the various stages of product change management
- Supervising the engineering changes of the product through the channel of change request process that includes change registration, change decision, prototyping, piloting, supply line validation and field line validation.
- Execution of Change Request steering discussion with other stakeholders to drive the change requests with sequential approval milestones.
- Implementation of changes in electrification architecture according to the periodic revisions of regulatory standards.
- Analysis of the quality feedbacks report related to the electrification module from the site and providing technical solution accordingly.

Electrical Engineer (July 2014 to September 2018)

- Electrification Design includes the wiring circuitry & harness schedule for various modules using Auto-CAD for the electrification according to the performance standards.
- The Component Selection includes Switchgear, Electrical Machines, Cable selection and sizing, Electrical Drives, Actuator Switches, Load Weighing Sensors, etc. based on the product configurations and performance standards.
- Creation, revision and documentation of the circuit drawings, controller manual, operational sequence, product descriptions, bill of materials, etc. based on the product parameters.
- Design and development of electrical wiring harness as well as diagrams pertaining to different electrical applications.
- Prototyping & Verification of the entire electrical system in the In-House & Field with systematic commissioning.



SOFTWARE SKILL SET

- AutoCAD Electrical
- Vertex ED-24
- MATLAB & SIMULINK
- OrCAD Capture
- PCB Editor & Pspice
- MathCAD
- VariPDM & Variclient
- EngCalc
- ETAP
- SAP
- R Programming
- Saber RD
- Clear Case
- Source Insight
- Microsoft office tools
- Design of LED lighting System with Wiring Circuitry, Driver Selection, Lumen Calculation and configuration using Math-CAD.
- Developing the conceptual and optimal design of new products based on specifications, quotation enquiry study, vendor selection, cost competency, quality and energy efficiency according to the market requirements.
- Engineering optimization of components for electrical subsystem designs such as switch gears and other protection systems for both control and power circuits based on component design requirements.
- Design & Development of CCTV Cable Provision by developing the conceptual design of CCTV integration.
- Performing the change management activities such as Product Cost Reduction, Market Indigenousation, Localization & Customization.
- Supply Line & Pre-Production validation using SAP Software before the product releases.
- Modernization of Electrical Systems with replacing/retaining the existing components as an objective of Total Repair Business with cost benefits.
- Analysis of supplier manufacturing processeses and conveying the critical to quality parameters to validate quality and resolve technical issues at supplier end.
- Supplier selection and consistent supplier follow-up for improvement iteration in new product development.
- Root Cause Analysis for the Electrical components Failure in the user-end based on the feedback from the frontline & appropriate drawing modification to overcome the failure.
- Analysis of design validation feedbacks of the product through various tools such as DFMEA, FRACAS, etc. for the further improvement iteration of the product.
- Creation of bill of materials, item masters and product structure database in the VariPDM software.
- Calculation of energy consumption for the electrical system in both Standby Mode & Operational Mode for the design of the energy efficient products.
- Calculation of Early Failure Rate (EFR) over the rolling period of time to increase the level of quality of the products present in the market.
- Development of customised R&D Test-Setup, Apparatus and Simulator along with the Sub-Contractors and Suppliers.
- Costing workout and costing comparisons based on the bill of materials and commercial requirements.
- Creation of Delivery Documentation Circuit Drawings for easy troubleshooting at site.
- Co-ordination of any required regulatory testing of Electrical / Electronic solutions at external agencies, including HALT (Highly Accelerated Life Test), EMC (Electro Magnetic Compatibility) testing, as required per regulatory standards
- Providing product support for Testing, Manufacturing, Sourcing, Quality & other cross functional business units.



PERSONAL TRAITS

- Self-Motivation towards the goal
- Alternative Visualizatiion
- Trustworthy and Socializing
- Planned worker
- Fast Learner & Innovative
- Effective Communication
- Efficient Presentation
- Good conceptual & leadership skills
- Self-discipline
- Punctuality
- Multiple task handling
- Brainstorming
- Time Management and Prioritisation
- Task Prioritisation



PROFESSIONAL EXPERIENCE

2012 - 2014

TATA ELXSI LIMITED

Bengaluru, KA, India



Engineer (July 2012 to July 2014)

- Validation of the System Prototype according to the Specifications & the Functionality of the Devices
- Validation and Verification includes White Box Testing and Black Box Testing based on the Set Top Box Ideal Functionalities.
- Testing for Reliability, UI improvement, everyday usability, Regression, better performance of Motorola Embedded Devices.
- The hardware testing involves the application software developed for hand held mobile devices is tested for its functionality, usability and consistency.



HOBBIES

