

MANISH KALAPPA

Mechanical Engineer | CAD & Simulation

Date of Birth: 04-01-1999 | Location: Belvaux, Luxembourg | Ph. No: +352-661826298

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Highly motivated mechanical design engineer with a strong foundation in CAD modelling, structural analysis, thermal management, and product lifecycle support for high-precision, mission-critical systems. I bring cross-functional experience in robotics, industrial automation, and clean tech – with a strong desire to apply my skills in the satellite and aerospace industry. I thrive in multidisciplinary teams, particularly in fast-paced, innovation-driven environments.

CORE TECHNICAL COMPETENCIES

- **CAD modeling tools:** SolidWorks, Inventor, Creo, AutoCAD
- **Technical Drawing:** GD&T, tolerance stack-up, ISO/ASME standards
- **Simulation:** FEA- ANSYS Workbench, Nastran
- **Statistical Tools:** SPC, DOE, Regression Analysis (Altair HyperStudy)
- **Programming:** Excel VBA, Python, MATLAB
- **Quality Standards and Tools:** ISO 9001, DMAIC, FMEA, SPC, 8D, Root Cause Analysis
- **Certifications:** Six Sigma White Belt (Udemy)
- **Languages:** English (C1), French (B1), German (A2)

EXPERIENCE

Master Thesis – Paul Wurth S.A, Luxembourg

March 2024 – October 2024

- Developed an Excel VBA simulation tool for thermal and flow analysis of the Dry Slag Granulation process, supporting plant sizing and budget estimation.
- Applied CFD and thermal principles using ANSYS Workbench and HyperStudy for parameter optimization and sensitivity studies.
- Collaborated with engineering and project teams to align technical outputs with stakeholder needs and improve decision-making.

Robot Customization Intern – FANUC Europe, Luxembourg

July 2023 – October 2023

- Preparing installation and setup of the robots and machines with accessories and peripheral equipment.
- Performed Camera calibration, mastering of different robot axes, while also setting up the software and conducting quality checks for the robot's performance.
- Received training on various types of robot customizations, including dual-arm configurations, solenoid installations, motor and amplifier integration, and RCC cable setup.

Graduate Engineer (QC Department) – SLVK Technologies, India

Sep 2020 - July 2022

- Performed Designed mechanical jigs, fixtures, and machine components in Inventor; prepared 2D drawings with detailed GD&T.
- Participated in design reviews and managed tolerance analysis for high-precision assemblies.
- Conducted root cause analysis on mechanical defects during QA inspections and proposed design refinements that reduced rework by 20%.
- Supported prototyping and conducted on-floor assembly verification; initiated Lean-based improvement ideas that optimized production cycles.

EDUCATION

M.S. in Mechanical Engineering – University of Luxembourg, Luxembourg

September 2022 – September 2024

Modules: Machine Design, Assessment of FEA, Project Management, CAD & CAE, Robotics, Programming in MATLAB and Python, Advanced Engineering Materials, Digital Factory Planning.

Academic Case Study – Kinetic Energy Absorber Project (Tools: Inventor, ANSYS WB, Mathcad)

Jan 2024 – Mar 2024

- Designed a mechanical system to convert the kinetic energy of a free-falling test rig into rotational energy, reducing impact forces.
- Conducted force and energy conversion calculations using Mathcad; verified design efficiency through finite element simulation in ANSYS Workbench.
- Developed a detailed 3D model and technical drawings in Autodesk Inventor, ready for manufacturing and assembly validation.

B. Eng. In Mechanical Engineering- Don Bosco Institute of Technology, India

August 2016 - 2020

Modules: Manufacturing, Quality, Energy, Project Management, Thermodynamics and industrial engineering concept.

Thesis and Paper: Design and development of Intuitive Seed Sowing Robot with Depth Controller. [ICIIIME]

ADDITIONAL INFORMATION

- **Availability:** Immediate
- **Work Authorization:** Luxembourg job seeker visa (valid and active)
- **Willing to relocate/travel:** Yes, for on-site support or integration