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Zara Hesari

Mechanical engineer with 2.5 years of experience in the medical devices and renewable energy sectors, specializing in high-performance systems design and optimization.

Demonstrated expertise in leading cross-functional projects, including the redesign of high-throughput medical instruments, achieving a 20% improvement in efficiency and a 15% extension in product lifecycle. Proficient in applying finite element analysis

Education

2023 – Jun 2024

M.S. Design & Engineering

Polytechnic University of Milan

Italy

The thesis explores the intersection of semiotics and existential ethics in design, emphasizing ethical agency and innovation.

2017 – 2020

B.S. Mechanical Engineering

University of California, Irvine

CA, USA

Led a senior project to design and test a liquid nitrogen cooling system, achieving a 50% improvement in power density control and ensuring compliance with Air Force Research Laboratory requirements.

Jun – Sep 2019

Student Researcher

Internal Combustion Engine Lab

Munich University of Applied

Germany

Led a senior project to enhance the MAN Diesel propulsion system's performance, implementing after-treatment systems to reduce environmental pollutants, meeting EU environmental standards.

Experience

May 2023 – July 2023 / *ReCarbon Inc. / Fremont, CA*

Prototype Mechanical Engineer

- Engineered high-temperature pipe flanges using nickel-based alloys to meet ASME standards for applications up to 1500°C, achieving 100% compliance with design and safety requirements.
- Prototyped precision components using 3D laser metal sintering technology, reducing manufacturing lead time by 25%.
- Performed machining operations using manual lathe and mill, achieving a defect-free fabrication rate.

Jan 2021 – May 2023 / *Abbott Laboratories / Santa Clara, CA*

Associate Mechanical Engineer

- Led the redesign of Alinity h-series blood analyzer instruments, optimizing thermal and vibration performance to improve throughput efficiency by 20%.
- Conducted FEA using ANSYS, validating structural performance and reducing prototype iterations by 30%.
- Spearheaded the creation and optimization of over 100 GD&T-compliant part designs, enhancing manufacturing precision and reducing assembly errors by 10%.
- Reduced production costs by 12% through material optimization for injection molding and sheet metal components.
- Managed two accelerated reliability projects as a technical lead, extending product lifecycle by 15% and achieving on-time project delivery.