

Results-oriented Mechanical Engineer specializing in precision machine building, with a track record in designing, constructing, testing, and commissioning advanced machinery. Notably, played a key role in the successful development of a Hydrogen Reformer for Fuel Cell applications at Skeg Product Development. Holds a Master's degree from the University of Cape Town, showcasing a strong academic foundation with international publications. Former university lecturer in Manufacturing Sciences, skilled in creating engaging course content and adept at team management. Proficient in Beckhoff TwinCAT PLC, MATLAB, LabVIEW, SolidWorks, Creo, and basic Frontend Web Development. Eager to leverage hands-on experience and a diverse skill set to contribute to innovative projects in mechanical engineering.

Professional Experience

Mechanical Engineer

January 2023 - Present

Skeg Product Development

- Engineering lead and project manager for the successful design, development, testing and commissioning of a high temperature Hydrogen Reformer (converting LPG and water to hydrogen through catalysis for fuel cell electricity generation).
- Project manager and lead engineer for the development and commissioning of a Direct Contact Membrane Distillation Desalination product for distribution across Saudi Arabia.
- System and component design; CAD, FEA and CFD simulations; Industrial automation and control; Frontend Web Development.

Graduate Engineer

March 2022 - December 2022

BMEC Technologies

- Assisted with design and development of multiple mechatronic and mechanical products including an Ozone producing device.
- Assembling electro-mechanical controllers used on industrial farms.

Lecturer, Teaching Assistant/Tutor

March 2021 - December 2022

University of Cape Town

- Lectured, convened, examined and prepared content and examinations for the undergraduate manufacturing sciences course while managing four tutors.

Education

MSc in Mechanical Engineering (with Distinction)

2021 - 2022

University of Cape Town

Thesis: "Flexible Media Polishing Machine Design, Development and Experimentation for the Polishing of Ti-6Al-4V Components"

Four journal papers and three conference papers published.

BSc in Mechanical Engineering

2016 - 2020

University of Cape Town

Thesis: "Development of an Intelligent Grinding System"
Thesis awarded with Distinction
Dean's Merit List for High Academic Achievement (2017)

Softwares and Packages

- SOLIDWORKS
- PTC Creo Parametric and Simulate
- MATLAB
- BECKHOFF TwinCAT (PLC and HMI)
- DAQ (Dewesoft, LabVIEW)
- Autodesk Simulation CFD
- HTML, CSS, JS
- Python
- Flutter/Dart
- 3D Printing Slicer Softwares (Cura)
- MS Office (including Visio & Project)
- Firebase

Relevant Skills

- Product and Machine Design
- Machine Building
- Machine Control and Automation
- System Design
- Process Modeling and Validation
- Experimental Design and Implementation (DOE)
- Project Management
- Contact Mechanics/Tribology
- Report and Academic Writing
- Front-End Web Development

Extra Curricular

Exercise

- UCT Football Team & 5-a-side football
- Avid long distance runner

Software Development

- Intermediate Python & Dart/Flutter
- Front-End Web Development using HTML, CSS & JS

Culinary

- Two month internship as a Chef and Assistant Manager at a top Dim Sum restaurant in Cape Town

Languages

- English (Native)
- Afrikaans (Limited Working Proficiency)

References

Fabio de Odorico

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Heidi Wilson

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