








# Quintin de Jongh

## Mechanical Engineer

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 quino97.github.io  
 Cape Town

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## Summary

Highly qualified and devoted Mechanical Engineer with 2 years of experience in designing and developing deeply technical and innovative products. Proven track record in optimizing designs, commissioning systems, diagnosing mechanical problems and managing projects from concept to completion. Skilled in SolidWorks, Creo, AutoDesk CFD, TwinCAT PLC and a large variety of coding languages. Adept at formulating product specifications, problem-solving and collaborating with cross-functional teams to complete tasks within demanding time-frames.

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## Professional Experience

### Mechanical Engineer

January 2023 - Present

#### Skeg Product Development

- Engineering lead and project manager for the successful design, development, testing, commissioning and experimental validation of a modular high temperature Hydrogen Reformer. Retained the customer to begin transition to commercial product development with Skeg. Coded a complex control and automation software/HMI using TwinCAT 3 and developed a front-end web application using Angular. Hands on approach involving leak testing, assembly, welding and fabrication.
- Led and managed the development of a Direct Contact Membrane Distillation Desalination product for distribution across Saudi Arabia. Optimized flow patterns across the membrane using CFD, fluid mechanics and thermodynamics.
- Provided mechanical support on multiple projects including: structural analysis of large moulded fruit picking crates, data analysis for alginate development and sheet metal design for frames and casings.

### Graduate Engineer

March 2022 - December 2022

#### BMEC Technologies

- Assisted with the development and commissioning of an Ozone Dispersion product for sanitation; learning sound mechanical and mechatronic design principles.
- Supported the development of a zone-based automatic seed dispersion device with incorporated micro controller; by aiding in Flutter web application coding, micro-controller coding, PCB design and assembly of the devices.

### Lecturer & Teaching Assistant

March 2021 - December 2022

#### University of Cape Town

- Lectured and examined 140 mechanical engineering students for "Manufacturing Sciences for Engineers" and "Introduction to Materials Sciences"

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## Education

### MSc in Mechanical Engineering (with Distinction)

February 2021 - April 2022

#### University of Cape Town

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

### BSc in Mechanical Engineering

January 2016 - December 2020

#### University of Cape Town

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

## 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

## 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)

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## Journal Papers

**Spring-dashpot vibrational model for the investigation of viscoelasticity in gelatinous abrasive media and subsequent control of parameters for the blast polishing of Ti-6Al-4V alloy**

The International Journal of Advanced Manufacturing Technology

**A Force Controlled Polishing Process Design, Analysis and Simulation Targeted at Selective Laser Sintered Aero-Engine Components**

International Conference on Competitive Manufacturing (COMA 2022)

**Polishing of a selective electron beam melting processed tungsten carbide punch through high velocity impinging of flexible media**

Journal of the Brazilian Society of Mechanical Sciences and Engineering

**A study of intelligent grinding systems with industrial perspective**

The International Journal of Advanced Manufacturing Technology

**Research Endeavors Towards Development of an Intelligent Grinding System**

International Conference on Competitive Manufacturing (COMA 2022)

**Towards configuration and development of an Augment Reality (AR) enhanced Intelligent Grinding System (IGS) for Ti6Al4V alloy**

International Conference on Competitive Manufacturing (COMA 2022)

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## Hobbies and Interests

### Software Development

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

### Exercise

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

### 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)