Quintin de Jongh
Mechanical Engineer

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Cape Town, South Africa

Organized and ambitious mechanical engineer with a passion for design and advanced manufacturing. Seeking to use machine-element design and research skills to develop cutting-edge machinery and procedures. Designed and built a state-of-the-art mechanical polishing process and machine at the University of Cape Town in six months, saving 20% of the budget for manufacture. Convened a third-year mechanical engineering course of 120 students, educating on advanced and conventional manufacturing techniques.

Education

Master of Science in Mechanical Engineering (with Distinction)

2021 - 2022

University of Cape Town
Overall Grade: 80% (A+)

Bachelor of Science in Mechanical Engineering

2016 - 2020

University of Cape Town
Overall Grade: 71.23% (A-)

Professional Experience

Lecturer

March 2022 - November 2022

University of Cape Town
- Convened, examined and prepared course content for the course entitled: 'Manufacturing Sciences in Mechanical Engineering' (120 students).
- Increased the overall course grade average by 10% from the previous year's class.
- Managed and trained four tutors in both student assistance and course administration.

Graduate Mechanical Engineer

March 2022 - Present

BMEC Technologies
- Assisted with professional mechanical designs through multiple revisions.
- Used Flutter and Dart to assist on full-stack development
- Learned PCB design through the use of CircuitStudio and an applicable project.
- Aided in assembling multiple electro-mechanical controllers for use on industrial farms.

Teaching Assistant and Tutor

February 2021 - June 2022

University of Cape Town
- Created course content for assessment of a materials selection software.
- Tutored seven different exit-level engineering courses over a year and a half.
- Assisted with course administration and marking.

Production and Analyst Engineer

January 2019, June-July 2019

PVC Pipefit Engineering
- CAD modeling of existing PVC pipes/connectors and design of custom pipes.
- Production management, stock handling and database creation.
- Basic engineering analysis of pipes.

Journal Publications

International Journal of Advanced Manufacturing Technology

August 2022

"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"

Journal of the Brazilian Society of Mechanical Sciences and Engineering

May 2022

"Polishing of a Selective Electron Beam Melting Processed Tungsten Carbide Punch through High Velocity Impinging of Flexible Media"

International Journal of Advanced Manufacturing Technology

May 2021

"A study on intelligent grinding systems with industrial perspective"

Skills

Softwares and Packages

- SOLIDWORKS
- MATLAB
- DAQ (Dewesoft and LabVIEW)
- MS Office
- PTC MathCAD
- Python
- Flutter/Dart
- HTML and CSS
- 3D Printing Slicer Softwares (Cura)
- CircuitStudio (base knowledge)
- Adobe Suite (base knowledge)

Relevant Skills

- Research | Report and Academic Writing
- Process Modeling and Validation
- Experimental Design (DOE) and Experimentation
- Advanced Manufacturing Equipment (Surface Grinding, Electroplating and Aerolap Polishing)
- Product and Component Design
- Machine Design and Build
- Contact Mechanics and Tribology
- Component Sourcing
- System Design
- Project Management
- Presentation and Professional Communication

Extra-Curricular

Football

- Played organized 11-a-side football for UCT in 2017 and 2018 and I have been playing casual 11-a-side and 5-a-side football since 2019.
- In addition to football, I go to the gym multiple times a week and often am involved in other sports (Tennis, Running, F1)

Software Development

- Self studied courses have provided me with knowledge on programming essentials, OOP, OOP design, data structures, and algorithms while multiple university courses (both completed and tutored for) have provided me with programming experience in the form of long projects and challenges.
- Experience in developing widgets and applications for customers (in Flutter/Dart) was acquired while working for BMEC Technologies.

Food Preparation and Cooking

- Completed a two month internship as a chef and assistant manager at a dim sum restaurant in Cape Town where I worked as a waiter for three years previously to that.
- Multiple years of self teaching and experimentation have allowed me to deeply enjoy cooking as a meditative experience.

References

A/Prof. Ramesh Kuppuswamy
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