Joshua Van Straaten

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WORK EXPERIENCE

Software Engineer

Corigine | July 2022 - Present

- Firmware development for RISC-V chip
- Development and maintenance of CICD pipelines to optimize deployment time
- Automated processes using Ansible and GitHub Workflows.
- Maintenance and setup of testing infrastructure, ensuring robust testing environments
- Project management

Engineer In Training

SRF FLEXIPAK SA | FEB 2022 - JUN 2022

- Workplace safety compliance (OHS)
- Machine and equipment maintenance and repairs
- Quality control and project management

Engineering Intern

Navago Machine Components CC | Nov 2018 - Jan 2019, Nov 2021 - Dec 2021

- Actively involved in team projects for large companies
- Independently completed fabrication tasks on the lathe and vertical mill
- Successfully completed ARC and MIG welding operations
- Proficiently modeled components using SolidWorks and made mechanical drawings for manufacturing

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SKILLS

- **Programming:** Python, C/C++, Bash, Yaml
- **Automation Tools:** Ansible, GitHub Workflows
- **Hardware:** Arduino, STM32F051 microcontroller, RISC-V
- **Software:** SolidWorks (sheet metal, 3D printing), MATLAB, Mathcad, CES, MS Office, KiCad
- **Machining, project management**
- **Communication:** Public speaking (Toastmasters)

EDUCATION

University of Cape Town: B.Sc. Mechanical and Mechatronics engineering | 2018 - 2021

GPA: 3.85 (77%)

Matriculated in 2017

UNIVERSITY PROJECTS

Electrical torque device prototype (Mar 2021 – Oct 2021)

- Modelled the torque device using SolidWorks
- Designed, programmed and soldered a motor control circuit for bidirectional and torque control
- Worked in a team of 4 to improve, manufacture and assemble the prototype

Numerical solver (May 2021 – June 2021)

- Developed a numerical solver to analyse the vibrations of multiple degree of freedom systems using Python

Research project – Design assessment of the Rancilio Silvia espresso machine (Aug 2021 – Nov 2021)

- Developed thermodynamic models of the Rancilio Silvia's internal system to identify inefficiencies
- Conducted a high-level analysis on the machine's electromechanical system
- Suggested possible improvements to improve the Rancilio Silvia's performance
- Maintained a Planning and Management portfolio with agendas, meeting minutes and a Gantt chart

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