KYLE FLANEGAN

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Click here for Video Resume & Portfolio

SUMMARY

I am a dedicated and innovative Mechatronics Engineering graduate with a strong foundation in mechanical and electrical design, control systems, and programming. My academic and internship experiences have equipped me with skills in CAD design, PLC programming, and embedded systems, allowing me to contribute to advanced engineering solutions. I excel in problem-solving, teamwork, and critical thinking, with a proven ability to work under pressure and deliver results.

WORK EXPERIENCE

Control Systems Internship **Jun - Jul 2023**

- Jendamark Automation, South Africa
  - Experience in programming Fanuc robots using Siemens and Allen-Bradley PLCs.
  - Programmed interlocks for material transfer station in a production line using TIA Portal.
  - Collaborated with cross-functional teams to implement control system solutions.

Electrical Engineer Internship **Jun - Jul 2022**

- Microcare, South Africa
  - Developed MQTT system for remote communication with geyser controllers.
  - Installed and configured load boxes for product testing.
  - Implemented IoT networks for improved product monitoring and control
  - Gained hands-on experience with solar electrical components and systems

EDUCATION

Bachelor of Engineering | Mechatronics **2019 - 2024**
Nelson Mandela University

- Distinction (80%) for Final Year Project: Multi-Functional Adjustable Desk
- Pass Average 68%

NSC - Bachelor's Pass **2014 - 2018**
Grey High School

- Full Coulours for Academics.
- Pass Average: 76%

SKILLS

- CAD: Solidworks, Inventor
- PLC Programming
- HTML, CSS, JavaScript
- MATLAB
- C#, C++, Arduino
- Figma
- Microsoft Word, Excel, Powerpoint
- Teamwork
- Time Management
- Work under pressure
- Problem Solving

ADDITIONAL INFORMATION

- **Languages:** English Native, Afrikaans
- **Birthday:** 3 January 2000
- **Certifications:** National Senior Certificate (Matric) | Bachelor of Engineering in Mechatronics

PROJECTS

Mechatronics Final Project

Development of a Multi-Functional Adjustable Work Desk

Project Overview: Designed and developed an ergonomic adjustable desk capable of three modes: sitting, standing, and screen tilt (0° to 90°), incorporating mechanical, electrical, and IT systems.

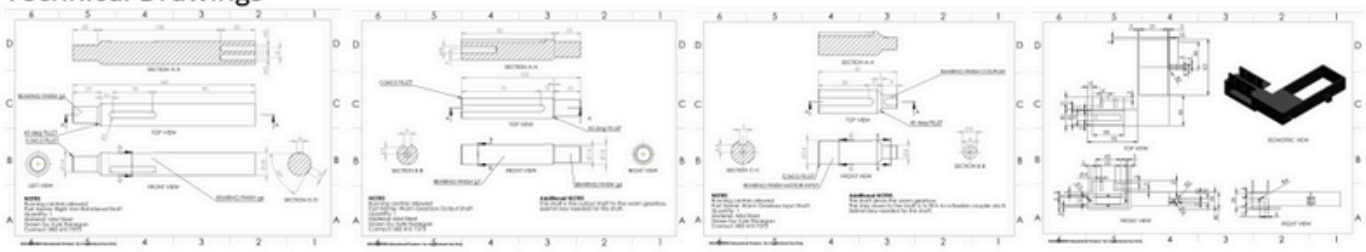
Components: Linear actuators, stepper motors, worm gearbox, limit switches, Arduino Mega, control panel.

Skills Used & Enhanced:

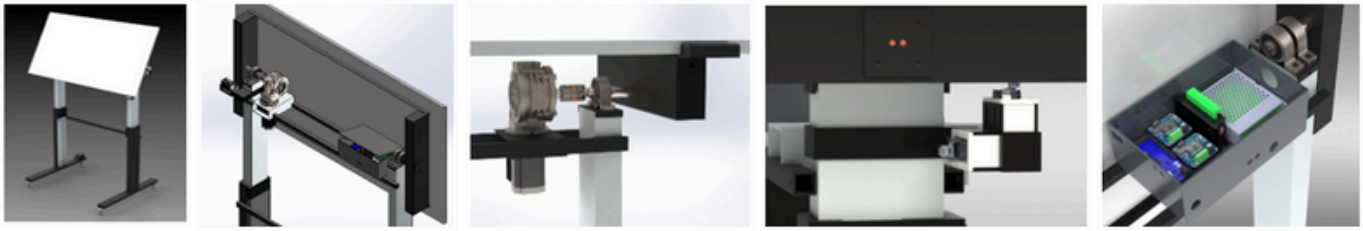
- CAD modeling and FEA simulations (SolidWorks).
- Circuit design and motor control programming (Arduino C++).
- Synchronization of actuators with PWM control.
- Prototyping: Assembling motors, sensors, and control systems.
- Safety feature integration: Limit switches, alarms, and emergency stop.
- Testing: Electrical and mechanical testing of components and final design.

Outcomes: Delivered a reliable prototype validated through load tests, synchronization precision tests, and safety mechanism checks, demonstrating the ability to merge engineering disciplines effectively.

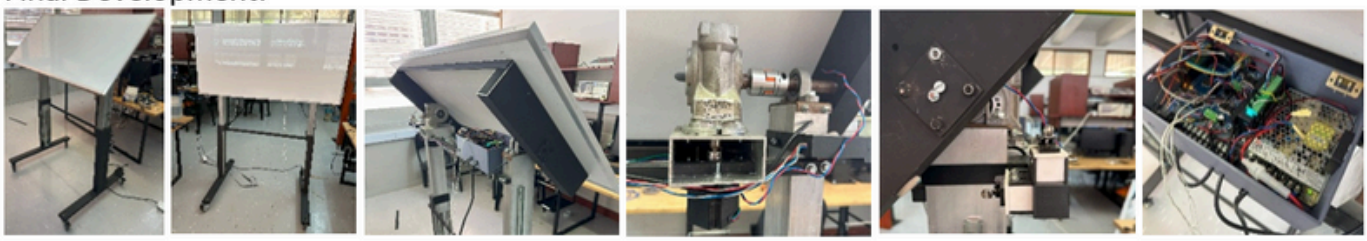
Technical Drawings



Rendered Images:



Final Development:



NOTABLE ACADEMIC ACHIEVEMENTS

BEng Mechatronic Engineering Distinctions

1st & 2nd Year:

- Mathematics 1a (79%)
- Engineering Drawing 1 (92%)
- Computer Science For Engineers Ia (87%)
- Multivariable Calculus (90%)
- Digital Electronics II (80%)
- Mathematical Modelling (75%)
- Electrotechnology II B (78%)

3rd & 4th Year:

- Control Systems III B (84%)
- Microprocessors III (75%)
- Advanced Manufacturing Systems IV (75%)
- Professional Communication (77%)
- Project Management 4: Engineering (83%)
- Environmental Engineering IV (77%)
- Mechatronics Project IV (80%)

Matric Results

English Home Language	67
Afrikaans First Additional Language	66
Mathematics	78
Life Orientation	83
Engineering Graphics and Design	92
History	81
Physical Sciences	66
Average	**76**

Total Credits: 42