KYLE FLANEGAN

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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. Passionate about automation and technology, I am eager to apply my skills to develop solutions that enhance efficiency and performance in engineering environments.

WORK EXPERIENCE

Control Systems Internship **Jun - Jul 2023**

- Jendamark Automation, South Africa
  - Experience in programming Fanuc robots using Siemens and Allen-Bradley PLCs.
  - Witnessed key aspects of designing automated production lines to improve factory efficiency.

Electrical Engineer Internship **Jun - Jul 2022**

- Microcare, South Africa
  - Developed and programmed inverters and IoT networks.
  - Learned essential techniques in electrical design and microcontroller programming

EDUCATION

Bachelor of Mechatronics Engineering with Honours **2019 - 2024**
Nelson Mandela University

- Distinction (80%) for Final Year Project:
  - Multi-Functional Adjustable Desk with Automated Height and Tilt Control.

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

- Full Coulours for Academics.

SKILLS

- CAD
- Solidworks
- Inventer
- C#
- C
- MATLAB
- PLC Programming
- Siemens TIA Portal
- Microsoft Office
- 3D Printing
- Problem Solving
- Critical Thinking
- Teamwork
- Time Management
- Ability to work under pressure

ADDITIONAL INFORMATION

- **Languages:** English, Afrikaans
- **Birthday:** 3 January 2000
- **Certifications:** Professional Virtual Assistant and General Transcriptionist Certification

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.

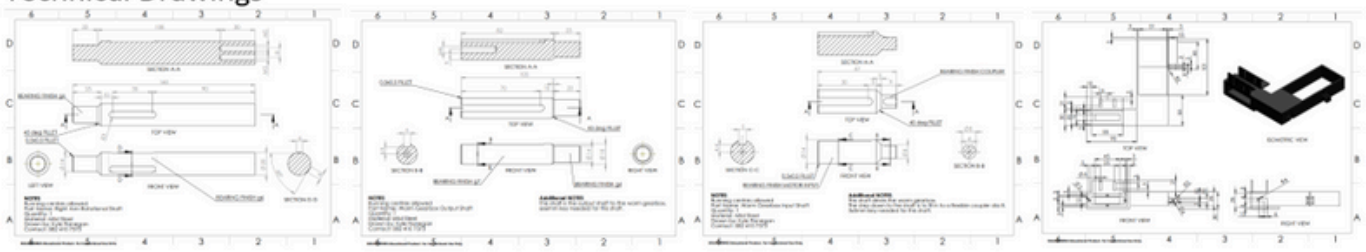
Components: Linear actuators, stepper motors, worm gearbox, limit switches, Arduino Mega, control panel.

Skills Used & Enhanced:

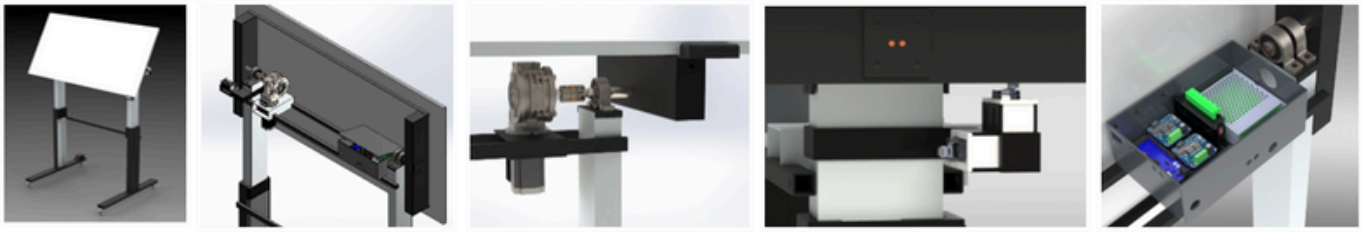
- CAD modeling and FEA simulations (SolidWorks).
- Circuit design and motor control programming (Arduino C++).
- Synchronization of actuators with PWM control.
- Prototyping: Assembling motors, sensors, and control systems.
- Safety feature integration: Limit switches, alarms, and emergency stop.
- Testing: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

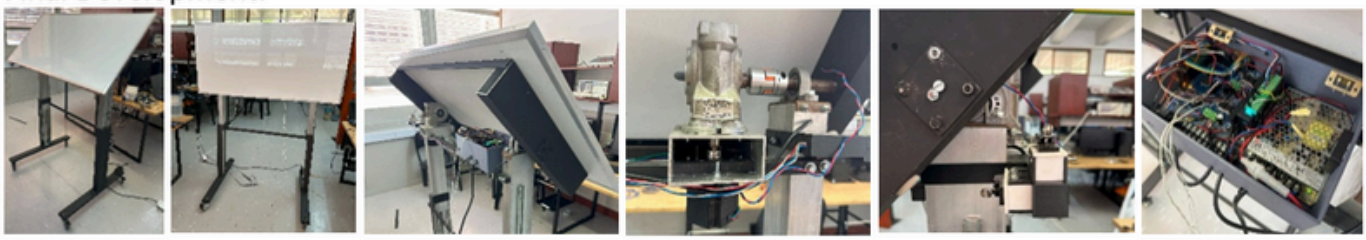
Technical Drawings



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

Total Credits: 42