

Kyle Flanegan

Mechatronics Engineer



Personal details



Kyle Flanegan



flaneganeng@gmail.com



+27 82 410 7373



Cape Town, Western Cape



3 January 2000



Drivers Licence



South African



kyleflanegan.github.io



linkedin.com/in/kyle-flanegan

Skills

SolidWorks

Inventor

Fusion 360

Siemens PLC Programming & HMI

Microsoft Word, Excel, PowerPoint

Figma

HTML, CSS, JavaScript

Problem Solving

Work in Fast Paced Environments

Profile

I am a versatile engineering professional combining technical expertise across multiple disciplines with a proactive problem-solving mindset. My foundation in mechatronics equips me with skills in mechanical design, electrical systems, programming, and software development. I excel in fast-paced environments where analytical thinking and creative approaches deliver innovative solutions. With proven academic excellence and hands-on project experience, I maintain a collaborative work ethic and clear communication of complex concepts. I am passionate about applying my interdisciplinary skills to create efficient, user-centered solutions in any engineering domain.

Portfolio Website

Introduction Video, Full Academic Record etc. <https://kyleflanegan.github.io/>

Employment

Control Systems Internship

Jun 2023 - Jul 2023

Jendamark Automation, Port Elizabeth, Eastern Cape, South Africa

- Programmed Fanuc robots utilizing Siemens and Allen-Bradley PLC systems, demonstrating foundational PLC programming expertise.
- Developed interlock systems and HMI layouts for a material transfer station using TIA Portal, reflecting proficiency with HMI platforms.
- Collaborated with cross-functional teams to design and implement effective control system solutions.

Electrical Engineering Internship

Jun 2022 - Jul 2022

Microcare Solar Energy, Port Elizabeth, Eastern Cape, 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.

Reference: Pierre Stemmett

+27 83 278 5251, pierrestemmett@gmail.com

Education

Bachelor of Engineering in Mechatronics

2019 - 2025

Nelson Mandela University

Pass Average of 68%

National Senior Certificate Bachelor's Pass

2014 - 2018

Grey High School

Pass Average of 76%

Achievements

■ Full Colours for Academics in Matric

■ Distinction (80%) for Mechatronics Final Project

■ Represented Eastern Province for Triathlon, Duathlon and Waterpolo

Languages

- English
- Afrikaans

Hobbies

- Playing Golf
- Playing Padel
- Building DIY Projects
- Designing Webpages

Courses

- React Foundations for Next.js

May 2025

Vercel course on the foundational concepts to help go from JavaScript to React.
- Complete Web Developer

Present

Udemy Complete Web Developer course with HTML, CSS, Javascript, React, Node.js, Machine Learning & more.

Projects

- Design & Development of a Multi-Functional Adjustable Desk

Mar 2024 - Nov 2024

For my Mechatronics final project, I designed and developed a multi-functional adjustable work desk that combined mechanical, electrical, and IT systems into a user-friendly ergonomic solution.

This desk was engineered to adapt to three modes:
 - Sitting mode (minimum desk height)
 - Standing mode (raise desk)
 - Screen mode (tabletop tilt from 0° to 90°).

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.

BEng Mechatronics 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%)