Keagan **Strydom**

Profile

A highly skilled **mechatronic engineer** who graduated **cum laude** and was awarded **Deans Award 5th** place from **Stellenbosch University** in 2024. My focus is software engineering, design, AI, and robotics. Additionally, I enjoy developing innovative systems to solve complex engineering problems, as seen in a self-developed **Speed Limit Recognition (SLR)** device for autonomous vehicles in real-world environments. I am eager to drive technological advancements in software and engineering through innovative and collaborative projects. Furthermore, I am a signed Boss Model in South Africa.

Contact Details

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Personal Information

Age: **22**
Nationality: **South African**
Languages: **English** (native), **Afrikaans** (C1)

Skills

Programming: Python, Swift, Java, C
Technical: Inventor, LaTeX, GitHub, MATLAB, Microsoft Office, TensorFlow, Data Analytics, Mathematical Modelling, Electronics.
Soft: Critical Thinking, Problem-Solving, Versatility, Leadership, Project Management.

Education

- **Deans Award 5th** in Mechanical & Mechatronic Faculty (2024)
- **BEng (Mechatronic)** Honours Degree **Cum Laude (83.59%)**
- **Top 20 Matriculant (95.7%)** in **Western Cape** (2020)

Relevant Coursework: Advanced Robotics, AI, Project Management, Design, Software Dev.

Notable Projects & Apps

- **Speed Limit Recognition:**

Developed a standalone speed limit recognition camera for vehicles. This system detects the speed limit using machine learning and notifies drivers as they exceed the limit through the vehicle speaker system. Proposed for autonomous driving applications. Completed using Python, self-made augmented datasets, Inventor, 3D printing, and embedded electronics (Raspberry Pi).

- **Mechatronic Vending Machine:**

Developed an automated vacuum suction system and interface that delivers ping pong balls, marbles, and aluminum cubes. Completed using Inventor and TIA Portal.

- **Three mobile apps self-published to the iOS Store:**

STEM Motion Box, Chaos!, Mini-cricket (for iPads) using Swift

(Note: Videos of these projects can be viewed on my LinkedIn.)

Internships

FEAS: Completed a six-week internship at Finite Element Analysis Services in 2023/2024. This internship involved developing 3D CAD and mathematical models to analyze the stress and failure behavior of real-world applications. Particularly wine tanks and vehicle structures.

ACEPAK: Completed a two-week internship at ACEPAK in 2023. This internship involved installing electronics and control systems and designing/coding commercial automated packaging systems for companies.

Achievements

Leadership

- Academic Prefect Leadership, 2020.
- Team leader of the International Robotics Team Hyperion Bots, 2017-2020.
- Chairperson of Mobile Application Incubator at Parklands College, 2019-2020.

Robotics *(**FLL**: First Lego League, **FTC**: First Tech Challenge)*

- FLL - *Represented South Africa in Texas 2018 & Hungary 2019*
- FTC - Nationals Alliance Champion & Motivate Award, 2020.
- FTC - Nationals Design Award, 2019.
- FLL - 5th Place Internationals & Gracious Professionalism Award, 2018.
- FLL - 1st Place Nationally, 2017.

Software development

- 1st place in the 2019 National Excellence in Education awards for iOS App, “STEM Motion Box”

Highschool

- **Dux Learner** of Parklands College 2020.
- Awarded **College Honours** for Achieving Colours/Honours for five fields in a single year.
- Awarded Honours in **Leadership**, **Academics**, **Technology**, **Sport** & **Service** in 2019 & 2020
- Senior subject certificate (Top student): **Life Orientation**, **Engineering Graphics & Design**, **Information Technology**
- **Trophies:** Growing Minds Critical Thinking Shield, Robotics Trophy, Innovation Trophy, Excellence in AutoCad Trophy, Trophy for Extraordinary Achievement, Senior Trophy ICT and Digicape Hardware iPad Award.

Service

Rotary Leadership Youth Awards: Senior facilitator for 100+ people at RYLA for three years, an intensive leadership experience organised by Rotary clubs and districts developing skills of the youth as leaders.

Nepal: Volunteered by building connecting roads at KRMEF (Kevin Rohan Memorial Eco Foundation) for a new school.

Interests & Hobbies

Hobbies: Surfing, Kitesurfing, Trail Running, Guitar, Rock-climbing, Hiking, Reading

Interests: Software development, Artificial Intelligence, Computer Vision, Embedded systems