

TSHEPO NCHABELENG

ELECTRICAL ENGINEERING STUDENT

CONTACT

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GitHub:
<https://github.com/TshepoNchabeleng>
(RC-CAR, & others still in progress)

PROFILE

Highly motivated first year Electrical Engineering student with a passion for control systems, embedded systems, renewable energy solutions, and advanced robotics. Dedicated to academic excellence and driven by a vision to innovate in the fields of energy, automation and wearable technology. Actively engaged in independent projects, blending technical knowledge with creativity to push the boundaries of what's possible. Seeking financial assistance to enhance my academic journey and enable the exploration of ambitious personal projects without adding financial strain on my family.

SKILLS

- Programming:** C++, C, Arduino, JavaScript, HTML, CSS
- Embedded Systems:** ESP32, Arduino, microcontroller integration.
- Tools & Platforms:** GitHub, Expo, React, MIT App inventor(basic), MATLAB(beginner).

EDUCATION

Bachelor of Engineering in Electrical Engineering at the University of Pretoria – Expected Graduation: 2029

- Coursework: Calculus, Physics, Chemistry, IT, Sustainable Engineering.
- Current GPA: 66%
- Academic Goal: Admission to a top global Master's program (MIT, Cambridge, Stanford, KAUST) specialising in advanced electrical or electronic engineering and innovation-driven projects.

PROJECTS & INNOVATION

RC CAR (2025-Ongoing)

- Currently developing the control systems of a custom-built RC car, integrating embedded programming and wireless communication.
- Designing and implementing algorithms for precise navigation, exploring future integration of machine learning for adaptive accuracy and autonomous driving.

Wearable Robotic Arm Prototype (2025 – Planning & Research)

- Exploring nanotechnology-enhanced designs to improve strength, precision, and ergonomics.
- Aimed at assisting individuals with mobility limitations, enhancing industrial applications and because it is a cool thing to build.

Renewable Energy Exploration (2024-Present)

- Self-directed study and research on efficient energy storage and generation systems.
- Goal: To one day design low-cost, sustainable power solutions for struggling communities.

LEADERSHIP & PERSONAL INITIATIVES

- Founded a personal innovation lab to prototype and test engineering concepts.
- Consistently engage in independent research alongside academic studies.