

HEINRICH CROUS

MECHATRONIC ENGINEERING STUDENT

PROFILE

Motivated Mechatronic Engineering student at UCT with strong academic performance (GPA 84.75%) and scholarships awarded for excellence. Passionate about machine learning, embedded systems, and control engineering, with hands-on experience in mechanical design, prototyping, and software development. Experienced leader and effective communicator with proven achievements in academics, outreach, and sport.

SKILLS

- Programming: Python, Java, C, MATLAB, Julia, HTML, CSS, LaTeX, and JavaScript.
- Tools: MS Excel, MS Access, KiCad, SOLIDWORKS, MATLAB, and Autodesk Inventor.
- Public speaking: national winner ATKV unprepared orating and prepared debating categories.
- Bilingual: fluent in English and Afrikaans (both home language level).
- Project management: Events & Outreach Officer for the Engineering and the Built Environment Faculty Student Council (EBESC); planned multiple events & fundraisers on the Student Representative Council (SRC).

WORK EXPERIENCE

MECHANICAL DESIGN INTERN • TF DESIGN GROUP OF COMPANIES • JULY 2025

- Designed 3D models in Autodesk Inventor and produced technical drawings for manufacture.
- Built and tested prototypes using 3D printing to validate designs.
- Collaborated with engineers on design reviews, strengthening teamwork and problem-solving.

TUTOR • EASY AS PI, UCT & PRIVATE CLIENTS • 2021-PRESENT

- Tutored 30+ students in Mathematics, Computer Science, Physical Science, and Accounting.
- Improved student performance through tailored lessons and structured feedback.

VACATION WORK TRAINEE • CPUT • NOVEMBER 2022

- Familiarized myself with electrical automation, PLC boards, pneumatics, CNC machines, metrology, basic hand skills, fitting & turning, and welding

FREELANCE WEB DEVELOPER & SOCIAL MEDIA MANAGER • PRIVATE CLIENTS • 2021-PRESENT

- Designed and maintained websites for professional clients, including law firms.
- Managed social media strategies and developed chatbots to improve client engagement.

EDUCATION

MECHATRONIC ENGINEERING • UCT • 2022-PRESENT

- Vice Chancellor's Scholarship recipient; Dean's Merit List (2022, 2023 & 2024).
- GPA 84.75%; Class Medal for Electronic Devices & Circuits (2024).
- Top 5% in Computer Science (Certificates of Excellence).

- Organisation and leadership: experience leading a student body and leading a sub-committee on the EBESC and SRC.

REFERENCES

UDERSH MAHESH • EMPLOYER

Cell: 083 449 6597

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THYS VORSTER • TUTORING CLIENT

Cell: 083 307 3284

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ELMARIE MINNIE • HEAD OF THE SRC

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DF MALAN HIGH SCHOOL • 2016-2020

- NSC: 8 distinctions, aggregate 95.8%.
- Top of class for 5 consecutive years.
- Honorary academic colours.

LEADERSHIP & VOLUNTEERING EXPERIENCE

LEADERSHIP POSITIONS

- Vice-chairperson and co-founder of the UCT AI Society (2023-2024).
- Member of the EBESC (2022-2023).
- Mathematics Class Representative (2023).
- Deputy Head Leader (2020).
- Served on the SRC (2016-2020).
- Athletics Captain (2020).
- Elected to the Cape Town Junior City Council (2018).

COMMUNITY SERVICE

- Volunteer - Ubuntu House Child & Youth Care Centre, assisting with childcare and outreach activities (2025).
- Electrical engineering undergraduate Head Mentor (2023).
- UCT Plus Bronze Award for 35+ hours of service.
- Launched the Change4Change Project: raised R13 200 in 4 days to buy a wheelchair for a twelve-year-old living with cerebral palsy (2020).
- Raised money for charity in DF Malan's annual Mr & Miss DF Malan contest; won the Debutant Award for the most money raised - R12 000 (2020).

SPORT & CULTURE

SPORT

- Competed for DF Malan's swimming and athletics teams (2016-2020).
- Western Province (WP) colours for biathlon (2018 & 2017); ranked second in the province in 2018.
- WP colours for club athletics (2018 & 2017).
- Received a bronze medal at the National Club Athletics Championship for the 400m relay.
- Finished sixth at the National Club Athletics Championship for the 400m sprint and second for the progressive relay (2017).

CULTURE

- Competed in the Mr and Miss DF Malan contest (2020).
- Portrayed the leading role in a DF Malan theatre production (2019).