OLOFF OSBORNE

CHEMICAL ENGINEERING STUDENT

CONTACT DETAILS

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PROFILE

Chemical Engineering student with strong fundamentals in fluid mechanics, heat and mass transfer, and process engineering, seeking hands-on vacation work in cocoa processing or chocolate manufacturing. Particularly interested in food-grade unit operations, thermal processing, material flow, and quality-critical production environments where engineering discipline is essential to product consistency and safety.

EDUCATION

Stellenbosch University
Bachelor of Engineering (BEng) – Chemical Engineering

May 2024 – Dec 2027 (expected)

- Achieved 70%+ average in core engineering subjects
- Strong grounding in transport phenomena, process design, and experimental methods
- Emphasis on linking theoretical models to real operational behaviour
- Relevant to food & chocolate processing: fluid flow of viscous materials, thermal systems, mass transfer, experimental uncertainty

Paul Roos Gymnasium

National Senior Certificate
Jan 2018 – Nov 2023

- Final Aggregate: 86.5%
- Full Academic Colours

PROFESSIONAL EXPERIENCE

Engineering Decision Support & Business Operations (Part-Time)

EV-Fleet — Stellenbosch, South Africa
Nov 2025 – January 2026

- Prepared structured technical summaries and supporting notes based on internal engineering inputs
- Conducted background research and data collation to support early-stage opportunity screening
- Assisted with organising and maintaining internal documentation, datasets, and dashboards
- Supported preparation for client discussions by ensuring information was clearly presented and limitations were explicit
- Gained exposure to how technical information is communicated conservatively and without overstating certainty

ENGINEERING PROJECTS

Aquaponics Recirculating System Design
Stellenbosch University

- Designed an integrated recirculating system using fluid mechanics and hydraulic modelling
- Performed head-loss calculations and pipe sizing; validated pump selection using system vs pump curves

- Accounted for frictional losses, fittings, and safety margins to ensure stable real-world operation
- Produced a structured engineering report with calculations, diagrams, and design rationale
- Direct relevance: liquid handling, pump selection, head loss management, and system stability in continuous processing environments

Pipe Friction & Flow Measurement Laboratory Investigation (ES243)
Stellenbosch University

- Experimentally measured pressure losses across different pipe materials and flow regimes
- Calculated friction factors and compared results with laminar theory, Colebrook–White correlation, and the Moody chart
- Evaluated Venturi meter accuracy and quantified uncertainty using statistical error analysis

Personal contribution: authored the full theoretical framework covering flow development, friction models, roughness effects, and Bernoulli application.

Centrifugal Pump Practical
Stellenbosch University

- Tested centrifugal pumps in single, series, and parallel configurations
- Identified efficiency losses and cavitation risk, highlighting limitations of ideal performance models
- Direct relevance: pump performance limitations, cavitation risk, and system matching in food-processing applications

Farm Dust vs City Dust: Statistical Analysis of Endotoxin Levels (ES243)
Stellenbosch University

- Analysed endotoxin concentrations (EU/mg) in farm vs urban household dust samples
- Applied descriptive statistics, histograms, and probability analysis
- Quantified differences in central tendency, spread, and skewness
- Produced a professional technical memo using engineering reporting standards

AWARDS & SELECTED ACTIVITIES

Winner — SU LaunchLab HealthTech Entrepreneurship Bootcamp

Stellenbosch University · LaunchLab

- Co-designed CareComms, a digital platform addressing communication gaps in frail-care environments
- Worked in a multidisciplinary team to define user needs, system logic, and value proposition under time pressure
- Recognised for clarity of problem framing and practical relevance in a healthcare context

TECHNICAL SKILLS

Engineering & Analysis:
Fluid mechanics · Hydraulic modelling · Pump & system curve analysis · Mass and energy balances · Experimental design · Uncertainty analysis
Data & Tools:
Excel (engineering calculations, analysis, visualisation) · MATLAB · Technical report writing · Process flow diagrams
Professional:
Structured problem solving · Systems thinking · Decision-oriented communication

LANGUAGES

English (native/bilingual) · Afrikaans (limited working proficiency) · German (elementary)

AVAILABILITY

Available for short-term (3-4 week) vacation work · Comfortable in laboratory and operational environments

INTEREST IN COCOA & FOOD PROCESSING

Interest in Cocoa & Chocolate Processing
Actively self-studying cocoa processing and chocolate manufacturing systems, including bean roasting, grinding, conching, tempering, and quality control. Particularly interested in high-cacao formulations, thermal processing, material flow behaviour, and process discipline in food-grade manufacturing environments.