DONFACK FORTUNE
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PROFESSIONAL EXPERIENCE

Alu-Bassa Cameroon, Douala, DLA — Nov 2023 – Aug 2023

Mechanical Designer (Design Office)

- In a group of 3, I spearheaded the optimisation of five hydraulic press machines by implementing design for manufacturing principles and geometric dimensioning and tolerancing streamlining the machine's two-phase process into a single phase, enhancing a 30% efficiency gain in the machines and an Increased enterprise Profit of +65%.
- Reduced the time spent on the project during task monitoring and implementation by 25% using Failure Mode and Effect Analysis (FMEA) and DFMEA

Samara-tech, Douala, DLA — Jun 2023 – Aug 2023

Mechanical Engineer (Revision Office)

- Researched new design and production techniques, and presented findings in weekly reports to the manufacturing team utilising Microsoft Excel slicers after performing data cleaning, aggregation, and visualisation.
- Met and coordinated with clients to oversee equipment installation and maintenance
- Reduced production errors to below 3% through quality assurance protocols and real-time monitoring, enhancing product reliability and customer satisfaction, while decreasing defect-related expenses by 15%.

Cameroon Railway Company (CAM-RAIL), Douala, DLA — Apr 2021 – Aug 2021

Mechanical Engineer (Braking System Department)

- Led the implementation of the intercity train initiatives by creating 3D and technical drawings Using AUTOCAD and SOLIDWORKS and presenting them to the Tech office for review and approval.
- Mentored junior mechanical engineers on optimising the Rk7 sole holder and braking triangle of the newly launched intercity trains to increase its braking power, using Finite Element Analysis and Computational Fluid Dynamics. Expanding the system performance by +35% on time and within budget.

RESEARCH EXPERIENCE

University of Douala, Undergraduate Research Assistant — Jan 2022 – Mar 2022

Electrical Department, System Testing and Design

- Conducted rigorous testing on electrical systems using ARDUINO and SIMULINK MATLAB, resulting in a 20% increase in efficiency and performance, thereby ensuring their suitability for department applications.
- Spearheaded the development of the Pedal Power Mobile Phone Charger (PPMPC), a renewable energy solution that mitigated campus energy shortages by 25%, demonstrating leadership and creativity in sustainable engineering.

MENTORING

University of Douala, Undergraduate Research Assistant — Apr 2025- May 2025

Mechanical Département, Banana Pseudo Shredding Machine Conception

- Supervised the mechanical design and component sizing of the machine, integrating mechanical constraints analysis and safety standards to produce a machine optimized for local Cameroonian operating conditions.
- Provided technical leadership to the group, mentoring them on applied agricultural machinery design and contributing to the development of the low-cost biomass waste valorisation machine.

PERSONAL PROJECT

Formula SAE Car, Douala, Dla — Apr 2025-Jan 2026

Mechanical Design (Self-Employed - Personal project)

- Completed the full conceptual and mechanical design of an FSAE vehicle, including chassis layout, suspension geometry, steering system, powertrain integration, and structural analysis, ensuring compliance with Formula SAE technical regulations.
- Performed detailed CAD modelling and simulation workflows (structural, dynamic, and crash studies) to optimize weight distribution, stiffness, and manufacturability, producing a complete design package ready for prototyping and team fabrication.

Infrastructures, Douala, Dla September 2025

Mechanical Design (Self-Employed - Personal project)

- Led the end-to-end development of a motorized wheelbarrow prototype using fully hands-on fabrication (welding, cutting, frame assembly), optimizing ergonomics for users between 1.50 m and 1.90 m and completing the build within three weeks without CAD or simulation tools.
- Directed a multidisciplinary team in mechanical–electrical integration, sourcing and refurbishing a reconditioned e-scooter motor, resolving design conflicts through cost-efficient engineering decisions (e.g., wheel-based height correction), and delivering a user-centered solution for construction and agricultural applications.

Small and Medium Enterprises and local farmers, Maroua, Mua Mar 2022 – May 2022

Mechanical Design (Self-Employed - Personal project)

- Designed and built a high-speed, high-precision Beans Unwrapping machine using a parallel lathe and universal milling machine, resulting in a 25% increase in bean production efficiency for local bean farmers**.**
- Employed mechanical vibration analysis during machine frame fabrication using ANSYS, ensuring operational stability and minimizing equipment breakdowns by 30%. This directly contributed to reduced maintenance costs and improved overall profitability.

Higher Technical Teachers Training College, Douala, Dla Feb 2022-Mar 2022

Mechanical Design (Self-Employed - Personal project)

- Led the end-to-end development of a pedal-powered mobile phone charger, coordinating an interdisciplinary team through research, ideation, CAD modelling, prototyping, and ergonomic optimization, resulting in a fully functional device designed to address energy scarcity for university communities.
- Applied DFM principles, SolidWorks structural analysis, and user-centered design to refine the frame, mounting systems, and ergonomics; validated performance through static simulations exceeding 800 N load capacity and implemented structural and weight-optimization improvements for enhanced durability and usability.

EDUCATION

Higher Technical Teacher Training College (Honors College)/ ENSET Douala-DLA

Bachelor's degree in Mechanical Engineering, Mechanical Construction, GPA: 3.63/5.0 Sep 2019 - Jun 2022

Master's degree in Mechanical Engineering, GPA: 3.52/5.0 Sep 2022 - Jun 2024

SKILLS & OTHER

- **Software:** SolidWorks, Onshape, MATLAB, AutoCAD Mechanical, Keyshot, ANSYS, Adobe Premiere Pro, After Effects, Photoshop, Excel, Python
- **Technical proficiency**: 3D Design, CAD Modelling, Finite Element Analysis, Computational Fluid Dynamics, GD&T, FMEA, DFM, Additive Manufacturing, Mechanical Vibration Analysis
- **Laboratory:**3D Printers, mill, lathe, drills, saws, MIG welding, sheet metal tools, water jet, laser cutter, metal casting

AWARDS AND HONORS

1. Honors College Graduate - Master's in Technology – 2025
2. Honors College Graduate - ENSET Douala – 2024
3. Best Project Award - Third Place - ENSET Douala – 2025
4. Honors College Graduate - ENSET Douala – 2022

CERTIFICATIONS

- **Certified Professional 3D Designer** – UDEMY, SOLIDWORKS, 2021
- **Certified Professional 2D Drafter**– UDEMY, AUTOCAD, SOLIDWORKS, 2022
- **GD&T Specialist** – UDEMY, 2024
- **Failure Mode and Effects Professional** – AIGPE, UDEMY, 2024
- **Additive Manufacturing Certified** – SOLIDWORKS, 2024
- **ANSYS Advanced User Certified –** Ansys, 2024
- **MATLAB professional –** MATLAB, 2024