HENRY ESOMCHUKWU ONEBUNNE

+905338392589 onebunnehenry402@gmail.com Famagusta linkedin.com/in/henry-onebunne

Profile

Mechanical Engineering graduate with strong interest in thermal-fluid sciences, renewable energy systems and computational analysis. Seeking to apply analytical and modelling skills to advanced research in fluid mechanics, heat transfer, and sustainable energy systems

Education

High School Diploma

September 2014 - December 2020

Dority International Secondary School, Aba, Abia state, Nigeria

- Graduated with a CGPA of 3.6 on a 4.0 scale

Bachelor of Science in Mechanical Engineering

September 2021 - July 2025

Eastern Mediterranean University, Famagusta, Cyprus

- Graduated with Honours, 3.71/4.0 GPA

Projects

Rock Crusher Mechanism

March 2023 - June 2023

- My team designed a compact rock crusher with a toggle linkage system, improving particle size consistency through testing, and presented the prototype to faculty for small-scale quarrying use.

Piping System Design (Fluid Mechanics Project)

September 2023 - January 2024

- Designed and analysed a complete piping system involving elevated water tanks, pump selection, and long-distance pipeline (NPS 16 & NPS 18).
- Performed head loss, elevation, and flow calculations to ensure efficient water transport, and presented the system design with technical diagrams.

Natural Frequency and Mode shape Analysis of a Cantilever Aluminium O-Beam

October 2023 - January 2024

- Analyzed frequency and mode shapes of an aluminium O-beam, optimizing performance through testing, and presented to instructors for structural use.

Designing and manufacturing a Vertical Axis Wind Turbine(VWAT)

February 2024 - June 2024

- My team designed and built a lightweight wind turbine prototype, improving efficiency through testing, and presented it to faculty for renewable energy use.

Solar Powered Stirling Engine(Capstone Project)

September 2024 - July 2025

- My team built a solar-powered Stirling engine prototype, enhancing efficiency through testing, and presented to instructors for renewable energy applications.

Solar Thermal Hot Water System Design

February 2025 - May 2025

Kyrenia, Cyprus

- Designed and simulated a solar domestic hot water system for a residential building using DesignBuilder software.
- Optimised flat-plate collector size and tilt angle to meet annual hot water demand under Kyrenia weather conditions.

Work experience

Engineering Analysis Specialist
January 2025 - May 2025

TEKNOFEST TRNC Research, FAMAGUSTA

- Designed and analysed a foldable solar concentrator with sun-tracking mechanism integrated with a Stirling engine to maximise solar energy capture and system efficiency.
- Competed in the Environment and Energy Category under the Renewable Energy Technologies subject.

Student Intern
July 2024 - August 2024

Eastern Mediterranean University Technical Affairs, Famagusta

- Completed a multidisciplinary internship at EMU's Technical Affairs Directorate, assisting in mechanical, HVAC, plumbing, automobile, and welding tasks
- Diagnosing, repairing, and maintaining mechanical systems and campus infrastructure.

Skills

Energy Systems • Thermal Analysis • Technical Writing • Project Planning • AutoCAD • ANSYS Mechanical • Technical reporting • SOLIDWORKS • Microsoft office • MATLAB

Languages

English (native) • Igbo (native) • French (intermediate) • Turkish (elementary)

Organisations

AIESEC in Turkey
September 2022 - March 2024

Famagusta, Cyprus

Team member of Brand and Youth Marketing department, Team Leader of Talent Management and Membership Experience department

The Nigerian Students Society, Eastern Mediterranean University
October 2022 - August 2023

Famagusta

Secretary General

The American Society of Mechanical Engineers
April 2023 - April 2024

Student Member

Awards

High Honours academic award, Eastern Mediterranean University
May 2025

References

- Professor Murat Ozdenefe, Chair of Mechanical Engineering, Eastern Mediterranean University murat.ozdenefe@emu.edu.tr
- Professor Babak Safaei, Machine Elements Professor, Eastern Mediterranean University babak.safaei@emu.edu.tr