# **Timoh William Chick**

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### **Research Vision**

PhD Objective: Engineer AI-driven, 3-D-printed-Advanced manufacturing, solar-powered mechatronic systems that fuse reinforcement learning path-planning, advanced materials, Industry 4.0 sensors, and renewable energy to deliver sub-centimetre precision agriculture and scalable autonomous and maritime robotics.

**Deliverables:** 3 IEEE RA-L papers + open-source ROS2 package + Kongsberg & field-trial data.

### Education

# MSc Mechatronics Engineering (Expected 2026) ColTech College of Technology, University of Buea Current Research: Digital Twin Framework for AI-Optimized Cocoa Harvesting with Field Validation of Robotic Harvesting in Tropical Farms Higher Diploma Marine Engineering (Hons) Regional Maritime University Ghana GPA 3.68/4.0 • Best Student Award MEng Industrial & Production Engineering ENSAI, University of Ngaoundere • GPA 3.38/4.0 Associate Degree in Mechanical Engineering & Industrial Automation IUT Douala • GPA 3.0/4.0

Advanced Level (Technician's Certificate) Maintenance of Electro-Mechanical Eqments 2003–2006 General Certificate of Education (5 papers) GTHS Bamenda • GPA 3.0/4.0

# **Certifications (Awarded)**

2022: Research/Practical Training Proficiency (Kumaraguru College of Technology India)

2020: Certificate of Proficiency – GUNT Hamburg

2020: Material Testing Proficiency (Zwick/Roell)

**2020:** EMCO Training (CT260, FB450, Siemens 828D)

2016: Cadet-ship Training + Fire-Fighting & Survival at Sea (RMU)

## **Publications in Progress**

1. Modeling Intelligent Robotic Systems for Autonomous Infrastructure Inspection (IEEE RA-L, under review)

### **Professional & Research Experience**

### **Head of Mechanical Engineering Laboratory**

2019-Present

PKFokam University Institute of Excellence, Cameroon

Commissioned \$250k Africa-first CNC EMCO/FB lab; 200+ students trained, \$2.5M Equipment's-budgets managed

Supervised 12 capstone projects in robotics, additive manufacturing, and sustainable engineering

Taught 200+ students: CNC, Robotics, 3D Printing, Manufacturing Automation, Engineering Materials, Metrology

### **Project Engineer (BIM & Simulation)**

2017-2019

Wally Construction, Cameroon

Project Leadership role was from procurement to operation follow-ups, maintenance and contractors and subcontract evaluations

Reduced design-to-fabrication time by 18% via SolidWorks-BIM workflows

Led 5 multidisciplinary teams (30 people); managed project budgets and schedules

Cost Saving and Efficiency (Function, Assembly, Quality, Environment, Health, Time,)/ SHEQ Compliance

### **CAD/CFD Engineer (Freelance)**

2016-2017

2011-2012

**DESSIMINTEL Ghana** 

Design and Simulation of a Six Z equipment for the production small scale Equipment wire KERSL Ghana 2017 Ghana,

Design and development of Seaweld equipment's for offshore purpose for STANDCODE Ghana

Designed auto-gutter evacuator showcased at DAAD Falling Walls Lab

### Performance Engineer

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Cameroon Railway (CAMRAIL)
Optimized CC 2200 locomotives via flash-memory systems and predictive maintenance.

### **Core Competences**

Mechatronics & Control Systems – AI-driven design of autonomous robots, feedback control, sensor fusion

AI/ML & Autonomous Systems - TensorFlow, PyTorch, ROS2, Reinforcement Learning, practical knowledge 50+ GitHub Skills

Additive Manufacturing & 3-D Printing – EMCO CT260, Siemens 828D, rapid prototyping, advanced materials

Sustainable Engineering & Renewable Energy – Solar-powered edge computing, energy-efficient actuators

Industry 4.0 & Smart Manufacturing – CMMS, Lean Six Sigma, predictive maintenance, digital twins

OS and Programming: C, C++, python, Arduino, Window, Ubuntu, Schemaplic, Proteus, Embedded Systems Programming

Project Management: Primavera P6, Microsoft Project, Microsoft Word, Excel, Access, Lean Six Sigma

CAD/CAM: SolidWorks, Siemens NX, Autodesk Inventor, AutoCAD, Autodesk 360, 3ds Max

Automation: Siemens PLC, Allen Bradley PLC, Micro Controller, IoT Platforms,

Computational Mechanics & Simulation – ANSYS, COMSOL, CFD, FEA, MATLAB, LabVIEW

# **Leadership & Outreach**

NGO: Founder, Sentinel Tech – trained 20 youths in AI POWERED application in Professional hand-on skills in Cameroon University inclusion: Founder, Computational Engineering Design Club (RMU) – 240 members in Ghana Community Preservation: Lead a committee of youth and participated in the cleaning of street in Douala

### **Honours & Awards**

2016: Best Student – Marine Engineering, Regional Maritime University
2024: Featured Speaker – 8th PKFokam Science & Technology Conference

### References

### Dr. Samuel Ratna Kumar

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### **Prof. Mathias Fru Fonteh**

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Former Director of COLTECH
University of Buea
/ Present University of Nchang

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### Mr. Ndach Thierry

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