# **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)**

2025-2026

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)**

2014-2016

Regional Maritime University Ghana

GPA 4.0/4.0 • Best Student Award

#### **MEng Industrial & Production Engineering**

2009-2012

ENSAI, University of Ngaoundere • GPA 3.38/4.0

### **Higher Diploma Mechanical & Industrial Automation**

2006-2008

IUT Douala • 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)
- 2. AI-Driven Autonomous Machining Sequence Optimization for Smart Manufacturing (arXiv)

# **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)**

2018-2019

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)**

2016-2018

**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**

2011-2012

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, 450+ GitHub commits

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

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

## **Leadership & Outreach**

NGO: Founder, Sentinel Tech – trained 240 youths in 3-D printing & CNC

**University:** Founder, Computational Engineering Design Club (RMU) – 240 members

### **Honours & Awards**

2016: Best Student – Marine Engineering, Regional Maritime University

2024: Featured Speaker – 8th PKFokam Science & Technology Conference

### References

# Dr. Samuel Ratna Kumar

Head, Mechanical Engineering
Kumaraguru College of Technology
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### **Prof. Mathias Fru Fonteh**

Management of Water Resources Tel: (+237)677760863 Email: matfonte@hyahoo.com Former Director of COLTECH University of Buea / Present University of Nchang

### Dr. Seranthian Ramanathan

Assistant Professor, Mechanical Engineering Kumaraguru College of Technology ramanathan.s.mec@kct.ac.in +91 8754933907

# Mr. Ndach Thierry

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