

K. R. M. ONESH AINDAJEE PUNCHINILAME

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Profiles: [Portfolio](#), [LinkedIn](#), [GitHub](#)

EDUCATION

RHINE-WAAL UNIVERSITY OF APPLIED SCIENCES (HSRW)

Kleve, Germany

Bachelor of Science in Mechanical Engineering (Minor in Design Engineering)

October 2018 - May 2023

- Relevant Coursework: Numerical Mathematics, Programming, Advanced Product Design, Applied Mathematics, Advanced Engineering Design
- Bachelor Thesis: Investigation of Fuel Cell Systems: Improving Efficiency Using Waste Heat. Completed in partnership with Fr. Lürssen Werft and HSRW.
Goal: Identify points of energy inefficiencies in fuel cell system and propose modifications.
Conducted an analysis of existing methanol driven fuel cell systems for superyachts to identify points of energy inefficiencies. Proposed three methods to increase the efficiency (details kept brief as the thesis was conducted under an NDA)
 1. **Water Heater:** proposed using water as a coolant for the fuel cell system such that when the water exited the system, it would be heated to approximately 48°C via heat exchangers and stored in a reservoir to be used as shower water on the yacht
 2. **Heat Storage:** introduced a heat storing system to aid the first solution by using phase-change materials (PCM), where heat would be stored in the PCM compound by converting it from its solid state to liquid. Heat would be extracted by reversing this phase-change (by passing cool water through the PCM and facilitating heat exchange between the PCM and water). This system would be utilised when the water heater system cannot make use of the waste heat (for example, when the water heater is at capacity)
 3. **Electricity Generation:** recommended employing thermoelectric generators (TEGs – small electronic devices that generated electricity when it experienced temperature differences across its body) all along the cooling pipes of the fuel systems to generate electricity using waste heat. At its peak, the system proposed could generate 140 W

FH AACHEN UNIVERSITY OF APPLIED SCIENCES

Aachen, Germany

University Entrance Preparation Course (Studienkolleg)

September 2017 - June 2018

- Subjects: English, German, Mathematics, Physics
- Master of Ceremonies of a conference highlighting multiculturalism at FH Aachen

BANGALORE INTERNATIONAL SCHOOL (BIS)

Bangalore, India

GCE Cambridge International AS and A Levels

August 2015 - June 2017

- Subjects: Chemistry, Physics, Mathematics, Economics, English, Global Perspectives and Research
- Valedictorian and two-time recipient of the BIS Award for Academic Excellence (2015, 2016)
- Received Cambridge Advanced International Certificate of Education Diploma with Distinction (2016)

PROFESSIONAL EXPERIENCE

FR. LÜRSEN WERFT

Bremen, Germany

Thesis Student and Design Engineering Intern

April 2022 - February 2023

- **Proposed three methodologies (water heater, heat storage, electricity generator) to increase energy efficiency of fuel cell systems**, complete with analysis and necessary thermodynamics/fluid dynamics calculations.
- **Developed a statistical predictive tool** using a Pearson Correlation Matrix in Excel to determine cost of production of a new yacht. Used when presenting a customer with an initial estimate of the cost.
Goal: improve the estimation process of the price of the yacht.
 - Prior to the development of this tool, the company would generate inaccurate theoretical estimates of productions costs as they did not have a sound method in place to generate estimates. This resulted in multiple corrections and meetings between the two parties until an accurate estimate could be determined.
 - Created the predictive tool by analysing data from all previously manufactured yachts and identifying factors that influenced cost the most. The tool accepted these factors as inputs based on client specifications and presented a more accurate cost estimate. This **reduced the number of meetings** between clients and engineers and **accelerated purchase progression**.

- **Designed and manufactured a prototype** to help secure the base plates of exhaust pipe holders at specified angles during assembly using waste metal. **Increased speed of assembly** of exhaust pipes and **reduced wastage of material**.
- **Software:** Siemens NX, BricsCAD, Siemens Teamcenter (Product Lifecycle Management), Microsoft Excel.

THEODOR-BRAUER-HAUS BRZ. (VOCATIONAL TRAINING CENTRE)

Kleve, Germany

Engineering Intern

March 2018 - May 2018

- Acquired basic machining skills, including lathe and CNC (computer numerical control) operations in metal-forming workshops
- Utilised LOGO! Software by Siemens to create basic logic diagrams and schematics
- Gained soldering skills and created several circuits on perforated boards
- Hands-on experience with circuit board design and electrical (passive and active) components

PROFESSIONAL DEVELOPMENT (CERTIFICATION)

CODECADEMY

Online

Skill Path: Data Science Foundations

February 2024 - December 2024

- Created programs with Python 3 and data visualizations with Python matplotlib and seaborn
- Queried and manipulated data with SQL and Python pandas
- Cleaned, organised, summarized, and analysed datasets
- Conducted hypothesis testing and learnt to communicate relevant findings clearly
- Conducted multiple projects (more details in [portfolio](#))

STANDARDISED TESTS

GRADUATE RECORD EXAMINATIONS (GRE) – GENERAL TEST

07th May 2024

- Total: 320
- Verbal Reasoning: 156, Quantitative Reasoning: 164

INTERNATIONAL ENGLISH LANGUAGE TESTING SYSTEM (IELTS) - ACADEMIC

04th November 2023

- Overall Band Score: 8.0
- Listening: 9.0, Reading: 8.0, Writing: 7.0, Speaking: 7.0

SKILLS

Technical Skills

Advanced Programming: Python, CSS, HTML, MATLAB

Intermediate Programming: Java, SQL

Advanced Computer-Aided Design (CAD): SOLIDWORKS, Siemens NX, AutoCAD

Software: Jupyter Notebook, Visual Studio, IntelliJ, Fusion 360, MS Office, Siemens Teamcenter

Simulation: Ansys, Simulink

Machining: CNC (computer numerical control), Lathe

Other Skills

Academic Writing
Teamwork

Leadership
Organisation

Public Speaking
Communication

LANGUAGES

NATIVE LANGUAGES

English (C1)
Sinhala

PROFESSIONAL PROFICIENCY

German (B2)
Hindi

FUNDAMENTAL PROFICIENCY

French (A1)

SPORTS

Cricket
Badminton

Volleyball
Cycling

Table Tennis
Swimming

Karate

Bouldering

ADDITIONAL INFORMATION

- Member of Student Board of Studies at HSRW – advisory board that implemented changes to university curricula to improve student/faculty experiences
- Founding member of the Rhine-Waal University cricket team
- Member of BIS cricket and volleyball teams
- Runner-up at The Association of International Schools of India (TAISI) Volleyball Championship
- Two-time winner of Bangalore International School's intra-school cricket tournament
- Winner of Cathedral High School's intra-school cricket tournament
- Recipient of Black Belt Dan 1 from the Okinawa Shōrin-Ryū Karate and Kobudō Association
- Winner of multiple state-level competitions in karate and kobudō in India