

THARINDU WEERARATHNE

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Education

B.Sc. Engineering (Mechanical Engineering) (Honours)

Nov. 2015 - July 2020

University of Peradeniya · Peradeniya, Sri Lanka

- Graduated with Second-Class Honours
- Final GPA 3.45 out of 4.0
- [Transcript] [Academic Rank Certificate] [Degree Certificate]

G.C.E. Advanced Level Examination (University Entrance Exam)

Aug. 2014

Ranabima Royal College · Peradeniya, Sri Lanka

- Physical Science
- Three distinction 'A' passes for Combined Mathematics, Physics, and Chemistry.
- Z-Score 2.0154

Awards & Achievements

1st Place, Engineeria International Quiz Competition organized by Cadd Center, India [Certificate]

02 Nov 2019

Research Projects

Open-Source Energy Model for Sri Lankan Power Generation System to Achieve 100% Renewable Energy Target in 2050

Aug. 2022 - PRESENT

University of Peradeniya · Peradeniya, Sri Lanka

- The study focuses on creating a large-scale energy model to optimize strategies to make solid energy policies in order to meet the Nationally Determined Contributions as per Paris Agreement

Rigid and Aeroelastic Analysis of Wind Induced Flow Behavior Around Unscaled Tall Buildings using Numerical Techniques

Feb. 2021 - Sep. 2022

University of Peradeniya · Peradeniya, Sri Lanka

- Study focuses on the analysis of the effect of wind loads on the pressure distribution around the Commonwealth Advisory Aeronautical Council (CAARC) building. Results are obtained under three numerical models namely, RANS, Large Eddy Simulation and LES analysis of the fluid domain coupled with two-way FSI to the building and compared with results obtained from a wind tunnel experiment found in the literature
- [Preprint]

Design of Prototype and Analysis of the Performance of Hull Reservoir Wave Energy Converter (HRWEC) under Random Sea Conditions

May. 2019 - June. 2020

University of Peradeniya · Peradeniya, Sri Lanka

- Designing of a wave energy device in consideration of extreme wave forces using available design computer packages
- Developing as a commercially viable device
- Design of experiments and experimentation
- Coupling of rigid body dynamics with complex fluid forces and finding the dynamics for large angle motions
- Coupling of MATLAB, Ansys and NEMOH software and ocean wave equations

Simulation of Oscillating Wave Surge Converter

June. 2018 - Jan. 2020

University of Peradeniya · Peradeniya, Sri Lanka

- Designing the device
- Finding corresponding hydrodynamic coefficients
- Evaluating the performance of the device

Skills

Modeling AutoCAD, Solidworks, Autodesk Fusion 360, SketchUp, Creo

Simulation Ansys, Nemoh, Solidworks

Illustration CorelDRAW, Adobe Photoshop, Lumion, Adobe Illustrator

Word Processing LaTeX, Microsoft Office

Experience

Teaching Assistant · University of Peradeniya · Peradeniya, Sri Lanka

June. 2021 - PRESENT

- Conducting laboratory experiments for undergraduates.
- Conducting laboratory trainings for high school teachers
- Grading lab reports, assignments, quizzes and tutorials.
- Providing interactive instructions to students in mechanical designing sessions
- Creating pre and post-test assessments where applicable
- Providing technical support for online examinations
- Assigned courses
 - CE304-2021 : Fluid Mechanics II
 - GP110-2021 : Engineering Mechanics
 - GP111-2021, 2022 : Elementary Thermodynamics
 - GP112-2022 : Engineering Measurements
 - GP114-2021 : Engineering Drawing
 - ME202-2022 : Mechanical Engineering for Civil Engineers
 - ME220-2021 : Engineering Design and Innovation
 - ME221-2021 : Mechanics of Machines
 - ME222-2021 : Design of Machine Elements
 - ME302-2021 : Machine Design II
 - ME322-2022 : Mechanical Engineering Laboratory I
 - ME324-2021 : Finite Element Analysis for Mechanical Design

Volunteering Research Assistant · University of Peradeniya · Peradeniya, Sri Lanka

Aug. 2020 - PRESENT

- Working on the projects -
 - Open-Source Energy Model for Sri Lankan Power Generation System to Achieve 100% Renewable Energy Target in 2050
 - Experimental validation of the performance of Hull Reservoir Wave Energy Device (HRWEC)
 - Rigid and Aeroelastic Analysis of Wind Induced Flow Behavior Around Unscaled Tall Buildings using Numerical Techniques

Trainee Mechanical Engineer · Noritake Lanka Porcelain (Pvt.) Ltd. · Matale, Sri Lanka

Feb. 2019 - May 2019

- Conducting maintenance work
- Implementing process improvements
- [Report]

Trainee Mechanical Engineer · Sri Lanka Railways · Colombo, Sri Lanka

Oct. 2017 - Jan. 2018

- Design implementations for process improvement
- Assisting locomotive repairs
- [Report]

Conferences and Seminars

Wave Energy Symposium · Sri Lanka Marine Renewable Energy Association · IESL, Colombo, Sri Lanka

30 Jan 2020

- Presented the group project on modelling and simulation of a commercially viable wave energy device
- [Sri Lanka Marine Renewable Energy Association]

Online Specializations and Courses

Renewable Energy and Green Building Entrepreneurship [Certificate]

2020

Duke University · USA

Climate Change and Energy Efficiency for Sustainable Development [Certificate]

2020

University of Moratuwa · Sri Lanka

Wind Energy [Certificate]

2020

Technical University of Denmark (DTU) · Denmark

Municipal Solid Waste Management in Developing Countries [Certificate]

2020

École Polytechnique Fédérale de Lausanne · Switzerland

Engineering Project Management [Certificate]

2020

Rice University · USA

Intro to Digital Manufacturing with Autodesk Fusion 360 [Certificate]

2020

Autodesk · Coursera

Professional Memberships

Associate Member · Institution of Engineers Sri Lanka (IESL) · Peradeniya, Sri Lanka

2020 - PRESENT

The Institution of Engineers, Sri Lanka is the multidisciplinary professional engineering institution in Sri Lanka.

- Membership Number: AM-26657

Member · Engineering Council Sri Lanka (ECSL) · Peradeniya, Sri Lanka

2020 - PRESENT

The Engineering Council of Sri Lanka is Sri Lanka's regulatory authority for registration of engineering practitioners.

- Membership Number: 212963

Extracurricular Activities

Captain & Vice Captain · Boxing team, University of Peradeniya · Peradeniya, Sri Lanka

2018 - 2019

The university Boxing team is founded by undergraduates of the university in the year 2017

- Establishing Boxing in the universities in Sri Lanka after 30 years -2018
- Champion of 'Leslie Handunge Memorial Invitational Boxing Tournament'- 2019
- Organizing the first ever Boxing tournament among Sri Lankan universities -2019
- Runner-up of the central province boxing tournament-2019
- Half colours - 2019
- [Certificates]

Active member · Art Society of the faculty · Peradeniya, Sri Lanka

2019 - 2020

Participated in Fiato-3 and Fiato-4 musical events as a

- Singer
- Drummer
- Guitarist
- [Fiato 3]
- [Fiato 4]

Volunteer · Engineering Student Union · Peradeniya, Sri Lanka

2016 - 2019

- Fundraising to help children with limited resources
- Teaching Mathematics for Sri Lankan students in rural areas
- Volunteering as a construction worker to develop infrastructure of underdeveloped schools

Committee Member · Mechanical Engineering Society, University of Peradeniya · Peradeniya, Sri Lanka

2017 - 2018

References

Prof. Prasanna Gunawardane

PhD, MEng, MIESL, CEng.

(Muroran Institute of Technology, Japan)

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Professor,

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Prof. Kushan Wijesundara

PhD, MSc.

(University of Pavia, Italy)

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Peradeniya, Sri Lanka.

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Prof. Asanga Ratnawwera

PhD

(University of Melbourne, Australia)

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