Dilini Pasqual

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Google Scholar : *https://scholar.google.com/citations?user=3DHXExwAAAAJ&hl=en*
Research Gate : *https://www.researchgate.net/profile/Dilini-Pasqual-2*
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EDUCATIONAL QUALIFICATIONS

MPhil in Computer Science and Engineering (Research based)   *Dec 2020 - Present*
UNIVERSITY OF MORATUWA   *Sri Lanka*
- *Research Work* - Dynamic Obstacle Avoidance for Low Altitude Autonomous UAVs Used in Remote Sensing Applications for Precision Agriculture
- Thesis is being reviewed

BSc Engineering (Hons) in Mechanical Engineering   *Nov 2015-Jan 2020*
UNIVERSITY OF MORATUWA   *Sri Lanka*
- *Main research work* - ArmX - Development of an upper extremity robotic exoskeleton for lift assistance.
- Second Class - Upper Distinction (**GPA : 3.52/4.2**)
- Dean's List in semester 6, 7, 8

Comprehensive Master Java Developer (CMJD)   *Sep 2014-Sep 2015*
INSTITUTE OF JAVA AND SOFTWARE ENGINEERING, PANADURA   *Sri Lanka*
[Oracle Certified Professional Java Programmer (USA), Oracle Certified Master Java Developer (USA)]

PUBLICATIONS

D. D. Pasqual, P. R. Withanachchi, G. C. Vimantha, R. K. P. S. Ranaweera, and R. A. R. C. Gopura, "**ArmX: An Upper Extremity Exoskeleton Robot for Lift Assistance**," 2022 8th Int. Conf. Control. Autom. Robot., pp. 88–94, Apr. 2022, doi:10.1109/ICCAR55106.2022.9782672

D. D. Pasqual, S.J. Sooriyaarachchi, C. Gamage, "**Dynamic Obstacle Detection and Environmental Modelling for Agricultural Drones.**" 2022 7th Asia-Pacific Conf. on Intelligent Robot Systems., pp. 70-75, Jul. 2022., doi: 10.1109/ACIRS55390.20

RESEARCH AND PROJECTS

Dynamic obstacle avoidance for low altitude autonomous drones used in precision agriculture applications.   *Dec 2020 - Present*
STACK : ROS, C++, PYTHON, PCL
- A research project focusing on developing an obstacle avoidance system to ensure safe navigation of low altitude drones in the presence of multiple dynamic and static obstacles.
- National Research Council granted project
- **Publication** - Dynamic Obstacle Detection and Environmental Modelling for Agricultural Drones

ArmX : Development of an upper extremity robotic exoskeleton for lift assistance.   *Jan 2019-Nov 2020*
STACK : SOLIDWORKS, ANSYS, MATLAB, ARDUINO, EMGWORKS, MOTIONANALYSIS
- A research project which carried out to design an upper extremity robotic orthosis device to support lifting activities for industrial workers in order to reduce the tendency to occur work related musculoskeletal disorders.
- **Publication** - ArmX: An Upper Extremity Exoskeleton Robot for Lift Assistance

LabelVis *Aug 2022 -Apr 2023*

STACK : OPENCV, MACHINE LEARNING, PYTHON

- A computer vision-based project which carried out to develop a defect detection system for screen printed labels to semi-automate the quality inspection process.

Self-powered MEMS flow sensor based on vortex-induced vibration design. *2019*

STACK : COMSOL MULTIPHYSICS, SOLIDWORKS

- A MEMS (Micro Electro-mechanical systems) related research project focused on designing a flow sensor with inbuilt energy harvesting unit to power up the communication unit (to transmit sensor data).
- Optimized design parameters to increase the efficiency of energy harvesting process.

WORK EXPERIENCE

Lecturer (Probationary) *Oct 2023 - Present*

DEPARTMENT OF MEDICAL TECHNOLOGY, FACULTY OF MEDICINE, UNIVERSITY OF MORATUWA *Sri Lanka*

- Subject areas - Biomedical Engineering, Robotics, Mechatronics
- Teaching - (MD4810 - Medical Technology Stream)
- Supervising multiple undergraduate research projects
- Medical technology curriculum development
- Designing laboratory sessions

Visiting Lecturer *Feb 2023-Present*

DEPARTMENT OF ELECTRONIC AND TELECOMMUNICATION ENGINEERING, UNIVERSITY OF MORATUWA *Sri Lanka*

- Conducting lectures on Biomechanics (BM4500 - Biomechanics, BM2102 - Modelling and Analysis of Physiological Systems, BM3500 - Biomechanics) for Biomedical Engineering Undergraduates

DEPARTMENT OF MECHANICAL ENGINEERING, UNIVERSITY OF MORATUWA

- Conducting lectures on Biomedical Engineering (ME4620 - Biomedical Engineering Applications) for Mechanical Engineering Undergraduates

DEPARTMENT OF MECHANICAL ENGINEERING, INSTITUTE OF ENGINEERING TECHNOLOGY, KATUNAYAKA

- Conducting lectures on Mechatronics (ME5040 - Mechatronics Technology)

Consultant (Lecturer - on assignment basis) *May 2023 - Oct 2023*

DEPARTMENT OF MEDICAL TECHNOLOGY, FACULTY OF MEDICINE, UNIVERSITY OF MORATUWA *Sri Lanka*

- Teaching - MD4810 - Medical Technology Stream (Medical Robots, Bionics)
- Medical technology curriculum development
- Designing laboratory sessions

Research Engineer *Aug 2022-May2023*

INTELLISENSE LABORATORY, DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF MORATUWA *Sri Lanka*

- Worked on a industry collaborated research project with Screenline Holdings (Pvt) Ltd to develop a computer vision based defect identification system for screen printed labels. Currently alpha testing is being carried out for the developed system.

Research Assistant *Dec 2020 - Jul 2022*

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF MORATUWA *Sri Lanka*

- Under Intellisense Laboratory
- National research council granted project AgrIOT: Development of a network of subsoil sensors and drones for precision agriculture

Teaching Assistant *Dec 2021 -Apr 2023*

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, UNIVERSITY OF MORATUWA *Sri Lanka*

- Conducted laboratory sessions for CS4352 - Robotics and Automation

DEPARTMENT OF MECHANICAL ENGINEERING, UNIVERSITY OF MORATUWA *Sri Lanka*

- Conducted laboratory sessions for ME4502 - Robotics Technology, ME4620 - Biomedical Engineering, ME4332 - Computer Aided Design and Manufacture, ME2170 - Manufacturing Engineering

DEPARTMENT OF MEDICAL TECHNOLOGY, FACULTY OF MEDICINE, UNIVERSITY OF MORATUWA   *Sri Lanka*
- Conducted laboratory sessions for Medical Technology Stream (MD4810 - Medical Technology Stream, MD 1130 – Cardiovascular and MD 2210 – Neuroscience)

Temporary Instructor   ***Sep 2020-Nov 2020***
DEPARTMENT OF MECHANICAL ENGINEERING, UNIVERSITY OF MORATUWA   *Sri Lanka*
- Worked under bionics Laboratory

Trainee Automation Engineer   ***Jul 2018 - Dec 2018***
CENTRAL AUTONOMATION DEPARTMENT, MAS ACTIVE (PVT) LTD   *Sri Lanka*
- Worked under several automation projects and successfully completed them within internship period.
- Hands on experience in PLC programming, HMI designing, pneumatic circuits, mechanical system designing and manufacturing.

TECHNICAL SKILLS

Robotics and Automation	ROS, Machine learning, PLC Programming, OpenCV, Point Cloud Library
Programming Languages	Java, Python, C++
Computer Aided Design and Manufacturing	SOLIDWORKS, AutoCAD, SolidCAM
Finite Element Analysis	ANSYS, SOLIDWORKS Simulation
Other Tools/ Technologies	MATLAB, Latex, Adobe Photoshop
Language Proficiency	English (IELTS score 7.0)

AWARDS AND ACHIEVEMENTS

1st runner up - CAD Eager   *2019*
ORGANIZED BY YOUNG MEMBERS SECTION, INSTITUTE OF ENGINEERS SRI LANKA AT TECHNO 2019
- Computer Aided Design and Modeling Competition

Champions - BUILD A ROBOT Robotics Challenge   *2017*
ORGANIZED BY IEEE WIE AFFINITY GROUP OF UNIVERSITY OF MORATUWA.
- Robotics line and wall following challenge.

EXTRACURRICULAR ACTIVITIES

- Conducted a workshop on "Internet of Things (IoT) for Precision Agriculture" for academic staff of Faculty of Agriculture, Rajarata University of Sri Lanka.

- Presenter at InnoTech 2020 Exhibition, Organized by Ministry of Higher Education, Technology and Innovation, Sri Lanka.

- Presenter at TECHNO 2019 Exhibition, Organized by Institute of Engineers Sri Lanka(IESL).

- Member of Organizing Committee of MECH-X 2018 Exhibition, organized by Department of Mechanical Engineering, University of Moratuwa, Sri Lanka.

- Presenter at EXMO 2017 Exhibition, organized by Faculty of Engineering, University of Moratuwa, Sri Lanka.

PROFESSIONAL AFFILIATIONS

Institute of Mechanical Engineers UK (IMechE)	Associate Member	80343761
Institute of Engineers Sri Lanka(IESL)	Student Member	S 22340

REFEREES

Prof. R.A.R.C. Gopura

BSc Eng, MEng, PhD, SMIEEE, AMIE(SL)

Professor, Department of Mechanical Engineering,
Dean, Faculty of Graduate Studies,
University of Moratuwa,
Sri Lanka.
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Lt. Col. Prof. Chandana Gamage

PhD, MEng, BSc Eng Hons, MACM, MIE(SL), CEng

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Department of Computer Science and Engineering,
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