

TILAN WICKRAMARACHCHI

20 Banks St, Padstow 2211, NSW · +61 4 5226 6208

tilan.c.w@gmail.com · www.linkedin.com/in/tilan-c-wickmarachchi

Work rights: Fulltime student (48hrs fortnightly when university is in session)

SKILLS

- Programming: C/C++, Python, MATLAB, Java, Latex.
- Working with microcontrollers: Atmel, Espressif, ARM.
- Working with microprocessors/SBC: Raspberry pi, Odroid.
- interfacing sensors: Lidar, Encoders, Ultrasonic, etc.
- Communication technologies: I2C, SPI, UART, Wi-Fi, Beacons, DSRC.
- Research publications.
- Quick and clear communication, split-second decision making and long-term planning.
- Using technical software and tools: SOLIDWORKS, Altium, Proteus, Easy EDA, Simplify 3D, Git.
- Using generic software and tools: Linux, Adobe Photoshop, Lightroom, MS office packages.
- Technologies: 3D Printing, PCB manufacturing, Soldering (THP, SMD), glass and carbon fibre manufacturing.
- Knowledge of architectures: RoS, Machine learning and Neural Networks.
- Transferring and applying previous knowledge to learn and adapt to new technologies.

EXPERIENCE

SEPTEMBER 2019 – JULY 2022

RESEARCH ASSISTANT, WORLD BANK AHEAD PROJECT, UNIVERSITY OF MORATUWA

Multidisciplinary project funded by the world bank. Focused on developing Intelligent Transportation Systems solutions and applications.

- Using knowledge in embedded programming and wired and wireless communication system to design, develop and test Intelligent Transport Systems applications.
- Sourcing components, working with suppliers and clients to achieve the outcomes outlined by the project.
- Compiling publications such as patents and research publications

SEPTEMBER 2019 – JULY 2022

ELECTRONICS ENGINEERING CONSULTANT, INNOVATION DIVISION, DIALOG (PVT) LTD, UNIVERSITY OF MORATUWA

The R&D wing of Dialog PVT LTD situated within the University. Focuses on developing hardware and software solutions for specific industrial clients.

- Using knowledge in robotics, electronics and RoS, participated in design and development tasks in ongoing robotics projects.
- Using knowledge in Python and Linux, optimized an SNMP-based hardware health monitoring system.
- Sourcing components and designing hardware architecture.

FEBRUARY 2019 – SEPTEMBER 2019

SOFTWARE ENGINEER, CODEGEN INTERNATIONAL PVT LTD

Software developer company in the Travel and tourism domain.

- Develop, test, and optimize java-based “Travel Box” software per client requirements. Which is a proprietary travel and tourism engine test

JUNE 2017 – DECEMBER 2017

UNDERGRADUATE INTERN, FUTURE DRONES (PVT) LTD, SRI LANKA

Startup UAV manufacturer and UAV-based service provider.

- Designed and prototyped components of various fixed-winged, quadrotor and Hexa-rotor UAVs using knowledge of robotics and Solidworks.
- Aerial mapping using UAV imagery and Pix4D.
- Training in flying fixed-winged and multirotor UAVs.

OTHER EXPERIENCE

SEPTEMBER 2022

KITCHEN HAND/CHEF, LANKAN RAILWAY CAFÉ, MORTDALE, NSW

Restaurant located in Mortdale, NSW serving Sri Lankan cuisine.

- Working with a team to carry out tasks in the kitchen such as creating recipes, cooking food, meal preparations, cleaning.
- Interacting with customers for preparing customized food items.
- Carrying out shop-closing routines without manager supervision.

NOVEMBER 2022

SANDWICH HAND, POD BY PETER, PADSTOW, NSW

Restaurant located in Padstow, NSW serving coffee, sandwiches, and burgers.

- Working with a team to carry out tasks in the kitchen such as cooking food, meal preparations, cleaning, inventory management.

EDUCATION

2022 – PRESENT

M.ENG IN MECHATRONICS ENGINEERING, UNIVERSITY OF WOLLONGONG

2021

INTERNATIONAL ENGLISH LANGUAGE TESTING SYSTEM (IELTS)

Overall – 7.5 | Speaking – 6.5 | Reading – 7.5 | Writing – 6.5 | Listening – 9

2014 – 2018

B.SC. ENGINEERING (HONS) IN ELECTRONIC AND TELECOMMUNICATION ENGINEERING, UNIVERSITY OF MORATUWA, SRI LANKA

2013 – 2014

ANDROID APPLICATION DEVELOPMENT, ESOF METRO CAMPUS, SRI LANKA

PUBLICATIONS

- T. Wickramarachchi, D. Dias, T. Samarasinghe and N. Gokull, **"Evaluation of DSRC/Wi-Fi Hybrid Communications for Intelligent Transport Systems,"** 2022 IEEE 25th International Conference on Intelligent Transportation Systems (ITSC), 2022, pp. 3509-3514, doi: 10.1109/ITSC55140.2022.9922307.
- Tilan Wickramarachchi, Dileeka Dias, Tharaka Samarasinghe, Nayan Dharmaraj **"Active Road Signs: Enhancing Road Safety with Cost-Effective Wireless Technologies"**, Engineer: Journal of the Institution of Engineers, Sri Lanka, 2022 (Accepted).
- Tilan Wickramarachchi, Nayan Dharmaraj, Roshan Sandaruwan, Isuru Alagiyawanna, Sameera Sandeepa, Suyama Dias, Dileeka Dias, Tharaka Samarasinghe, Kasun Hemachandra **"Enhancing Road Safety with Cost-Effective Wireless Technologies"**, Transport Research Forum, Department of Civil Engineering, University of Moratuwa, 2021(Abtract) pp. 21-22.
- Tilan Wickramarachchi, Nayan Dharmaraj, Danuka. Malinda, Gayan. Nettasinghe, Isuru Senevirathne, Sandalika Weerasuriya, Dileeka Dias, Tharaka Samarasinghe, Kasun Hemachandra **"Enabling ITS Applications with Affordable Communication Technologies"**, Transport Research Forum, Department of Civil Engineering, University of Moratuwa, 2020, pp. 20-21 (Abstract).
- D. Ranasinghe, K. Vidanapathirana, T. Wickramarachchi, K. Katuwandeniya, P. Jayasekara and S. Ajisaka, **"Development of a Lightweight, Low-cost, Self-balancing Personal Mobility Vehicle for Autonomous Indoor Navigation"**, 2019 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM), 2019, pp. 571-576, DOI: 10.1109/AIM.2019.8868788.
- Tilan Wickramarachchi, Hasini Wickramasinghe, Prof. Dileeka Dias, Dr. Tharaka Samarasinghe, Dr. Kasun Hemachandra. 2020. **"Real-time warning system for pedestrians, vehicles, residences, and commercial entities proximate to a railway track"**. 21161, filed 12/02/2020. Patent pending.

PROJECTS

Experimental Evaluation of DSRC/Wi-Fi Hybrid Systems in Intelligent Transportation Systems.

Supervised by Prof. (Mrs.) S.A.D. DIAS

2019 - present

Developing a DSRC / Wi-Fi hybrid communication that can be used in Intelligent Transportation System applications. This is being developed as an alternative low-cost communication system for DSRC and LTE systems that are currently being deployed. Wi-Fi is used for non-essential communications, while DSRC is for essential communications such as approaching emergency vehicles or railway vehicle warnings.

Autonomous Two-Wheeled Robot. (Personal Project)

2021 – present

Developing an RoS-based autonomous differential drive robot for indoor navigation using lidar data as a self-study project.

Autonomous, Two-Wheeled, Self-Balancing Personal Mobility Device

Supervised by Dr. Peshala G. Jayasekara.

2017 – 2018

Designed and developed a two-wheeled self-balancing personal mobility platform that can navigate in a predefined indoor environment with obstacles using a lidar and RGBD sensor. Responsible for mechanical design, electronics hardware architecture design and development of an android interface as a GUI for the platform

IESL Robogames, IESL, Sri Lanka

Runners up.

2016

Designed and developed a robot that travels uneven terrain, following a black line and picking up and unloading a payload. (<https://youtu.be/GWvQK7Qm4pw>).

SLIIT Robofest, SLIIT, Sri Lanka

2nd Runners up.

2016

Designed and developed a robot that navigates a maze, picks up a payload, senses its colour, follows coloured arrows, and unloads the payload.

Sri Lankan Robotics Challenge, University of Moratuwa, Sri Lanka

Finalist.

2016

Designed and developed two robots. One of which was controlled using a remote controller to travel on uneven terrain, pick up a box and place it in a hole in the ground to complete the path for the second robot. The second robot could solve a grid maze, picking up and unloading payloads.

References can be provided on request.

I hereby attest that the information provided above is true to my knowledge.