Profile Image

DR. LIYANA BT RAMLI

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CONTACT

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FACULTY
Fakulti Kejuruteraan Dan Alam Bina

SUPERVISION

	COMPLETED	ONGOING
PhD	0	0
Master	0	2

AREAS OF EXPERTISE

- Control System Design And Algorithm
- Control Optimization Algorithm
- Neural Network For Machine Learning

ACADEMIC QUALIFICATION

- 2019 **PhD** - Electrical Engineering
- 2015 **Master** - Electrical Engineering
- 2011 **Bachelor** - Electrical & Electronic Engineering

RESEARCH

1. **INTELLIGENT RNN-PID CONTROL OF A SELF-BALANCING WHEELCHAIR FOR MOBILITY ASSISTANCE**
   2026 | GERAN PENYELIDIKAN FUNDAMENTAL | ON GOING | MAIN RESEARCHER
2. **QUANTUM-INSPIRED RESOURCE ALLOCATION FOR UAV-ASSISTED 6G NETWORKS**
   2026 | GERAN PENYELIDIKAN FUNDAMENTAL | ON GOING | CO-RESEARCHER
3. **PROTOTYPE DEVELOPMENT OF A REAL-TIME UAV-BASED DEEP LEARNING SYSTEM FOR AUTOMATED DURIAN DETECTION AND YIELD MONITORING**
   2025 | GERAN PEMBANGUNAN INOVASI (GPI) | ON GOING | CO-RESEARCHER
4. **DELAY-AWARE PREDICTIVE CONTROL OF A UAV FOR AUTONOMOUS POWER LINE- GUIDED INSPECTION**
   2025 | GERAN KPT | ON GOING | CO-RESEARCHER
5. **TAARIQ: DESIGN AND DEVELOPMENT OF AN AL-BASED HUMANOID ROBOT**
   2023 | GERAN PENYELIDIKAN KHAS | ON GOING | CO-RESEARCHER

RESEARCH

6. TAARIQ: AUTONOMOUS PERSON-FOLLOWING TELEPRESENCE ROBOT USING STEREO CAMERA AND DEEP LEARNING YOLO

2022 | GERAN PENYELIDIKAN USIM | ON GOING | CO-RESEARCHER

7. DEVELOPMENT OF MOBILE APPLICATION FOR WOMEN'S "PRELOVED" BUSINESS PLATFORM: FASHION ARCHADE (FACADE)

2022 | GERAN PENYELIDIKAN AGENSI KERAJAAN | COMPLETED | CO-RESEARCHER

8. NEW OPTIMAL ENERGY-EFFICIENT CONTROL OF FLEXIBLE SYSTEMS WITH SIMULTANEOUS PAYLOAD HOISTING AND WIND DISTURBANCE

2020 | GERAN KPT | ON GOING | MAIN RESEARCHER

9. MODELLING AND CONTROL OF AN AERIAL TRANSPORTATION SYSTEM CARRYING SUSPENDED PAYLOAD

2020 | GERAN PENYELIDIKAN USIM RACER | COMPLETED | MAIN RESEARCHER

PUBLICATION

1. OPTIMAL CONTROL FOR A GANTRY CRANE SYSTEM USING PRIORITY FITNESS STRATEGY OF PARTICLE SWARM OPTIMIZATION

INTERNATIONAL JOURNAL OF ROBOTICS AND CONTROL SYSTEMS

2025 | JOURNAL | SCOPUS | CO-AUTHOR

2. PID CONTROL AND INPUT SHAPING FOR QUADROTOR UAV STABILIZATION AND PAYLOAD SWING REDUCTION

APPLICATIONS OF MODELLING AND SIMULATION

2025 | JOURNAL | OTHER DATABASE | CO-AUTHOR

3. A REVIEW OF ANTI-SWING CONTROL FOR CRANES

POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM

2025 | PROCEEDING | OTHER DATABASE | CO-AUTHOR

4. AUTONOMOUS UAV-BASED POWER TRANSMISSION LINE-GUIDED INSPECTION USING YOLO DEEP LEARNING

INTERNATIONAL SEMINAR ON ISLAM AND SCIENCE 2025

2025 | PROCEEDING | OTHER DATABASE | CO-AUTHOR

5. AUTONOMOUS UAV-BASED POWER TRANSMISSION LINE-GUIDED INSPECTION USING YOLO DEEP LEARNING

INTERNATIONAL SEMINAR ON ISLAM AND SCIENCE (SAIS) 2025

2025 | PROCEEDING | OTHER DATABASE | CORRESPONDING AUTHOR

6. AUTONOMOUS PERSON-FOLLOWING TELEPRESENCE ROBOT USING MONOCULAR CAMERA AND DEEP LEARNING YOLO

APPLICATIONS OF MODELLING AND SIMULATION

2024 | JOURNAL | SCOPUS | CO-AUTHOR

PUBLICATION

7. CONTROL OF A MULTIMODE DOUBLE-PENDULUM OVERHEAD CRANE SYSTEM USING INPUT SHAPING CONTROLLERS

INTERNATIONAL JOURNAL OF ROBOTICS AND CONTROL SYSTEMS

2024 JOURNAL OTHER DATABASE CO-AUTHOR

8. MODELLING, SIMULATION AND VALIDATION FOR A MULTIMODE DOUBLE-PENDULUM OVERHEAD CRANE

APPLICATIONS OF MODELLING AND SIMULATION

2024 JOURNAL OTHER DATABASE CO-AUTHOR

9. SWING CONTROL OF 2D OVERHEAD CRANE USING PROPORTIONAL INTEGRAL DERIVATIVE NEURAL NETWORK

9TH IEEE INTERNATIONAL CONFERENCE ON AUTOMATIC CONTROL AND INTELLIGENT SYSTEMS (I2CACIS2024)

2024 PROCEEDING SCOPUS CO-AUTHOR

10. ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

2024 CHAPTER IN BOOK EDITOR

11. DEVELOPMENT OF A SEMI-HUMANOID TELEPRESENCE ROBOT USING ROBOT OPERATING SYSTEM

ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

2024 CHAPTER IN BOOK CO-AUTHOR

12. ADAPTIVE INPUT SHAPER FOR PAYLOAD SWING CONTROL OF A 5-DOF TOWER CRANE WITH PARAMETER UNCERTAINTIES AND OBSTACLE AVOIDANCE

AUTOMATION IN CONSTRUCTION

2023 JOURNAL ERA CO-AUTHOR

13. PSO-BASED PID-PD CONTROLLER OF A GANTRY CRANE WITH PARAMETER UNCERTAINTIES

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

2023 JOURNAL SCOPUS CORRESPONDING AUTHOR

14. ROBUST INPUT SHAPING FOR SWING CONTROL OF AN OVERHEAD CRANE

22ND ASIA SIMULATION CONFERENCE

2023 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

15. TECHNOLOGIES IN SCIENCE AND ENGINEERING

2023 BOOK

16. METHODS AND APPLICATIONS FOR MODELING AND SIMULATION OF COMPLEX SYSTEMS

COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE

2023 CHAPTER IN BOOK CORRESPONDING AUTHOR

17. OSCILLATION DETECTION OF A QUADROTOR SYSTEM CARRYING SUSPENDED PAYLOAD USING IMAGE PROCESSING TECHNIQUE

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

2022 JOURNAL SCOPUS CORRESPONDING AUTHOR

PUBLICATION

18. DESIGN AND DEVELOPMENT OF A SEED-SOWING ROBOT PROTOTYPE

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022

2022 | PROCEEDING | NON-INDEX | CORRESPONDING AUTHOR

19. SIMULATION OF NUMERICAL METHODS FOR ENGINEERING

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022 (SAIS2022)

2022 | PROCEEDING | NON-INDEX | CO-AUTHOR

20. CONTROL OF AN UNDERACTUATED DOUBLE-PENDULUM OVERHEAD CRANE USING IMPROVED MODEL REFERENCE COMMAND SHAPING: DESIGN, SIMULATION AND EXPERIMENT

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

2021 | JOURNAL | ERA | MAIN AUTHOR / CONTACT PERSON IN USIM

21. EFFECTIVE FORMATION TRACKING OF QUADROTORS WITH INTELLIGENT DISTURBANCE OBSERVER-BASED CONTROL

IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY - TRANSACTIONS OF ELECTRICAL ENGINEERING

2021 | JOURNAL | SCOPUS | CO-AUTHOR

22. AUTONOMOUS UAV-BASED CATTLE DETECTION AND COUNTING USING YOLOV3 AND DEEP SORT

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS2021)

2021 | PROCEEDING | NON-INDEX | CO-AUTHOR

23. LEADER-FOLLOWER FORMATION CONTROL OF QUADROTORS WITH COLLISION AVOIDANCE USING ARTIFICIAL POTENTIAL FIELD

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS2021)

2021 | PROCEEDING | NON-INDEX | CO-AUTHOR

24. COMBINED NEURAL NETWORK-BASED INPUT SHAPING AND FEEDBACK CONTROL OF AN OVERHEAD CRANE

CONTROL AND MECHATRONICS ENGINEERING IN MULTIPLE APPLICATIONS

2021 | CHAPTER IN BOOK | MAIN AUTHOR

25. EFFICIENT SWING CONTROL OF AN OVERHEAD CRANE WITH SIMULTANEOUS PAYLOAD HOISTING AND EXTERNAL DISTURBANCES

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

2020 | JOURNAL | ERA | MAIN AUTHOR

26. CONSENSUS TRACKING CONTROL OF MULTIPLE QUADROTORS WITH A COOPERATIVE LEADER

APPLICATIONS OF MODELLING AND SIMULATION

2020 | JOURNAL | OTHER DATABASE | CO-AUTHOR

27. PAYLOAD SWING CONTROL OF A TOWER CRANE USING A NEURAL NETWORK?BASED INPUT SHAPER

MEASUREMENT AND CONTROL

2020 | JOURNAL | SCOPUS | CO-AUTHOR

28. DESIGN OF A LOW-COST AUTOMATIC DISINFECTION CHAMBER

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS 2020)

2020 | PROCEEDING | NON-INDEX | CO-AUTHOR

PUBLICATION

29. DRIVER BEHAVIOUR MONITORING AND ALERT SYSTEM BY USING MACHINE LEARNING

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS 2020)

2020 PROCEEDING NON-INDEX CO-AUTHOR

30. EFFICIENT CONTROL OF A NONLINEAR DOUBLE-PENDULUM OVERHEAD CRANE WITH SENSORLESS PAYLOAD MOTION USING AN IMPROVED PSO-TUNED PID CONTROLLER

JOURNAL OF VIBRATION AND CONTROL

2019 JOURNAL ERA CO-AUTHOR

31. DISTURBANCE OBSERVER-BASED FORMATION TRACKING CONTROL OF MULTIPLE QUADROTORS IN THE PRESENCE OF DISTURBANCES

TRANSACTIONS OF THE INSTITUTE OF MEASUREMENT AND CONTROL

2019 JOURNAL ERA CO-AUTHOR

32. IMPROVED UNITY MAGNITUDE INPUT SHAPING SCHEME FOR SWAY CONTROL OF AN UNDERACTUATED 3D OVERHEAD CRANE WITH HOISTING

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

2019 JOURNAL ERA CO-AUTHOR

33. MODEL REFERENCE COMMAND SHAPING FOR VIBRATION CONTROL OF MULTIMODE FLEXIBLE SYSTEMS WITH APPLICATION TO A DOUBLE-PENDULUM OVERHEAD CRANE

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

2019 JOURNAL ERA CO-AUTHOR

AWARDS/RECOGNITION

1. ANUGERAH STAF CONTOH NOVEMBER 2025

2025 UNIVERSITY

2. MODELLING AND CONTROL OF AN AERIAL TRANSPORTATION SYSTEM CARRYING SUSPENDED PAYLOAD

RESEARCH SEMINAR UNIVERSITI SAINS ISLAM MALAYSIA

2024 UNIVERSITI CERTIFICATE OF APPRECIATION

3. FINAL YEAR PROJECT & POSTGRADUATE: RESEARCH & INNOVATION POSTER COMPETITION (RIPC SERIES 1/2023)

2023 NATIONAL

4. PERSON-FOLLOWING TELEPRESENCE ROBOT USING YOLO DEEP LEARNING

International Expo of Innovation Product and System Design (INVIDE) 2023

2023 ANTARABANGSA SILVER

5. PERSON-FOLLOWING TELEPRESENCE ROBOT USING YOLO DEEP LEARNING

INNOVATION BANK CHALLENGE 2023 (IBC2023)

2023 UNIVERSITI SILVER

AWARDS/RECOGNITION

6. STAF CONTOH FKAB BULAN OGOS

2022 UNIVERSITY

7. RUBBER TREE TRUNK HUMIDITY INSPECTOR

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRiIN 2022)

2022 ANTARABANGSA SILVER