



DR. LIYANA BT RAMLI

PENSYARAH UNIVERSITI DS13

CONTACT

Phone: 067986519

E-mail:
lyanaramli@usim.edu.my

Faculty: Fakulti
Kejuruteraan Dan Alam
Bina

SUPERVISION

PhD - Completed: 0, Ongoing: 0

Master - Completed: 0,
Ongoing: 2

AREAS OF EXPERTISE

Control System Design And Algorithm

Control Optimization Algorithm

Neural Network For Machine Learning

ACADEMIC QUALIFICATION

PhD in Electrical Engineering (2019)

Master in Electrical Engineering (2015)

Bachelor in Electrical & Electronic Engineering (2011)

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 AI-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 PERSON-FOLLOWING TELEPRESENCE ROBOT USING MONOCULAR CAMERA AND DEEP LEARNING YOLO

APPLICATIONS OF MODELLING AND SIMULATION

2024 JOURNAL SCOPUS CO-AUTHOR

6. 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

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

APPLICATIONS OF MODELLING AND SIMULATION

2024 JOURNAL OTHER DATABASE CO-AUTHOR

8. 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

9. ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

2024 CHAPTER IN BOOK EDITOR

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

ADVANCEMENT IN TECHNOLOGY AND ENGINEERING

2024 CHAPTER IN BOOK CO-AUTHOR

11. 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

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

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

2023 JOURNAL SCOPUS CORRESPONDING AUTHOR

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

22ND ASIA SIMULATION CONFERENCE

2023 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

PUBLICATION

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

COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE

2023 CHAPTER IN BOOK CORRESPONDING AUTHOR

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

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

2022 JOURNAL SCOPUS CORRESPONDING AUTHOR

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022

2022 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

17. SIMULATION OF NUMERICAL METHODS FOR ENGINEERING

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022 (SAIS2022)

2022 PROCEEDING NON-INDEX CO-AUTHOR

18. 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

19. EFFECTIVE FORMATION TRACKING OF QUADROTOR WITH INTELLIGENT DISTURBANCE OBSERVER-BASED CONTROL

IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY - TRANSACTIONS OF ELECTRICAL ENGINEERING

2021 JOURNAL SCOPUS CO-AUTHOR

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS2021)

2021 PROCEEDING NON-INDEX CO-AUTHOR

21. LEADER-FOLLOWER FORMATION CONTROL OF QUADROTOR WITH COLLISION AVOIDANCE USING ARTIFICIAL POTENTIAL FIELD

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS2021)

2021 PROCEEDING NON-INDEX CO-AUTHOR

22. 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

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

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

2020 JOURNAL ERA MAIN AUTHOR

24. CONSENSUS TRACKING CONTROL OF MULTIPLE QUADROTOR WITH A COOPERATIVE LEADER

APPLICATIONS OF MODELLING AND SIMULATION

2020 JOURNAL OTHER DATABASE CO-AUTHOR

25. PAYLOAD SWING CONTROL OF A TOWER CRANE USING A NEURAL NETWORK-BASED INPUT SHAPER

MEASUREMENT AND CONTROL

2020 JOURNAL SCOPUS CO-AUTHOR

26. DESIGN OF A LOW-COST AUTOMATIC DISINFECTION CHAMBER

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS 2020)

2020 PROCEEDING NON-INDEX CO-AUTHOR

PUBLICATION

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS 2020)

2020 PROCEEDING NON-INDEX CO-AUTHOR

28. 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

29. 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

30. 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

31. 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 UNIVERSITY 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 UNIVERSITY SILVER

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