DR. NOOR HANIS IZZUDDIN BIN MAT LAZIM

PENSYARAH UNIVERSITI DS13

CONTACT

Phone:

E-mail:
nh.izzuddin@usim.edu.my

Faculty: Fakulti Kejuruteraan Dan Alam Bina

SUPERVISION

PhD - Completed: 0, Ongoing: 0

Master - Completed: 1, Ongoing: 1

AREAS OF EXPERTISE

Control Theory

Field Robots

Other Electircal And Electronic Engineering

Autonomous System

ACADEMIC QUALIFICATION

PhD in Electrical Engineering (2019)

Master in Electrical - Mechatronics And Automatic Control (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` `CO-RESEARCHER`

2. AUTOMATED MACHINE LEARNING SYSTEM FOR INSTALLATION, OPERATION AND MAINTENANCE OF SOLAR PROJECTS USING SATELLITE AND DRONE IMAGERY

`2025` `GERAN KPT` `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. AUTOMATED MACHINE LEARNING SYSTEM FOR INSTALLATION, OPERATION AND MAINTENANCE OF SOLAR PROJECTS USING SATELLITE AND DRONE IMAGERY

`2025` `GERAN PENYELIDIKAN INDUSTRI` `ON GOING` `CO-RESEARCHER`

5. DELAY-AWARE PREDICTIVE CONTROL OF A UAV FOR AUTONOMOUS POWER LINE- GUIDED INSPECTION

2025   GERAN KPT   ON GOING   MAIN RESEARCHER

5. DELAY-AWARE PREDICTIVE CONTROL OF A UAV FOR AUTONOMOUS POWER LINE- GUIDED INSPECTION

2025   GERAN KPT   ON GOING   MAIN RESEARCHER

RESEARCH

6. TAARIQ: DESIGN AND DEVELOPMENT OF AN AL-BASED HUMANOID ROBOT

`2023` `GERAN PENYELIDIKAN KHAS` `ON GOING` `MAIN RESEARCHER`

7. SALAH CHAIR

`2023` `GERAN PENYELIDIKAN LAB2MARKET` `ON GOING` `CO-RESEARCHER`

8. DEVELOPMENT OF UPPER LIMB EXOSKELETON SYSTEM

`2023` `GERAN PEMBANGUNAN INOVASI (GPI)` `ON GOING` `CO-RESEARCHER`

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

`2022` `GERAN PENYELIDIKAN USIM` `ON GOING` `MAIN RESEARCHER`

10. RESOURCE MANAGEMENT OPTIMIZATION IN 6G NETWORK FOR SMART GRID COMMUNICATIONS USING DEEP LEARNING

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

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

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

12. AUTONOMOUS HUMAN DETECTION AND LOCALIZATION USING MACHINE LEARNING

`2021` `GERAN KPT (KKP)` `COMPLETED` `CO-RESEARCHER`

13. AUTOMATIC DISINFECTION CHAMBER

`2020` `GERAN PENYELIDIKAN COVID-19` `COMPLETED` `MAIN RESEARCHER`

14. STUDY OF RAINFALL EFFECT TO OPTIMIZE POWER LINES PERFORMANCE

`2020` `GERAN PENYELIDIKAN USIM RACER` `COMPLETED` `CO-RESEARCHER`

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

`2020` `GERAN PENYELIDIKAN USIM RACER` `COMPLETED` `CO-RESEARCHER`

16. DESIGN AND DEVELOPMENT OF PERSONAL PROTECTIVE EQUIPMENT (PPE) BOX FOR HEALTHCARE APPLICATION

`2020` `GERAN PENYELIDIKAN COVID-19` `COMPLETED` `CO-RESEARCHER`

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

`2020` `GERAN KPT` `ON GOING` `CO-RESEARCHER`

PUBLICATION

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

APPLICATIONS OF MODELLING AND SIMULATION

`2025` `JOURNAL` `OTHER DATABASE` `CO-AUTHOR`

2. DESIGN AND IMPLEMENTATION OF AN OBJECT-FOLLOWING SYSTEM BY USING DJI TELLO DRONE

JOURNAL OF TELECOMMUNICATION, ELECTRONIC AND COMPUTER ENGINEERING (JTEC)

`2025` `JOURNAL` `OTHER DATABASE` `CO-AUTHOR`

3. GRAPE LEAF DISEASE DETECTION USING CONVOLUTIONAL NEURAL NETWORK

JOURNAL OF TOMOGRAPHY SYSTEM & SENSORS APPLICATION

`2025` `JOURNAL` `OTHER DATABASE` `CO-AUTHOR`

4. 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`

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

APPLICATIONS OF MODELLING AND SIMULATION

`2024` `JOURNAL` `SCOPUS` `CORRESPONDING AUTHOR`

6. DEVELOPMENT OF BATTERY MONITORING SYSTEM FOR POWER GENERATORS: INSIGHTS AND EXPERIENCE

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

`2024` `PROCEEDING` `NON-INDEX` `CO-AUTHOR`

7. AUTONOMOUS MOBILE TROLLEY ROBOT (AMTRO): INT-CART

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

`2024` `PROCEEDING` `NON-INDEX` `CORRESPONDING 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. DEVELOPMENT OF A SEMI-HUMANOID TELEPRESENCE ROBOT USING ROBOT OPERATING SYSTEM

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

`2024` `CHAPTER IN BOOK` `CORRESPONDING AUTHOR`

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

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

`2023` `JOURNAL` `SCOPUS` `CO-AUTHOR`

11. ATTITUDE AND ALTITUDE CONTROL OF QUADROTOR MAV USING FOPID CONTROLLER

METHODS AND APPLICATIONS FOR MODELING AND SIMULATION OF COMPLEX SYSTEMS

`2023` `PROCEEDING` `SCOPUS` `CO-AUTHOR`

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

22ND ASIA SIMULATION CONFERENCE

`2023` `PROCEEDING` `NON-INDEX` `CORRESPONDING AUTHOR`

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

COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE

`2023` `CHAPTER IN BOOK` `CO-AUTHOR`

PUBLICATION

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

JOURNAL OF SUSTAINABILITY SCIENCE AND MANAGEMENT

`2022` `JOURNAL` `SCOPUS` `CO-AUTHOR`

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022

`2022` `PROCEEDING` `NON-INDEX` `CORRESPONDING AUTHOR`

16. SIMULATION OF NUMERICAL METHODS FOR ENGINEERING

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2022 (SAIS2022)

`2022` `PROCEEDING` `NON-INDEX` `CO-AUTHOR`

17. ADAPTIVE SUPER TWISTING SLIDING MODE CONTROL OF QUADROTOR MAV

CONTROL, INSTRUMENTATION AND MECHATRONICS: THEORY AND PRACTICE

`2022` `CHAPTER IN BOOK` `CO-AUTHOR`

18. POSITION AND ATTITUDE CONTROL OF QUADROTOR MAV USING SLIDING MODE CONTROL WITH TANH FUNCTION

ENABLING INDUSTRY 4.0 THROUGH ADVANCES IN MECHATRONICS

`2022` `CHAPTER IN BOOK` `CO-AUTHOR`

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

IRANIAN JOURNAL OF SCIENCE AND TECHNOLOGY - TRANSACTIONS OF ELECTRICAL ENGINEERING

`2021` `JOURNAL` `SCOPUS` `MAIN AUTHOR / CONTACT PERSON IN USIM`

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS) 2021

`2021` `PROCEEDING` `NON-INDEX` `MAIN AUTHOR`

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

SEMINAR ANTARABANGSA ISLAM DAN SAINS 2021 (SAIS 2021)

`2021` `PROCEEDING` `NON-INDEX` `CORRESPONDING 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` `CO-AUTHOR`

23. ADAPTIVE PID CONTROLLER USING SLIDING MODE CONTROL APPROACHES FOR QUADROTOR UAV ATTITUDE AND POSITION STABILIZATION

ARABIAN JOURNAL FOR SCIENCE AND ENGINEERING

`2020` `JOURNAL` `ISI` `MAIN AUTHOR`

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

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

`2020` `JOURNAL` `ISI` `CO-AUTHOR`

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

APPLICATIONS OF MODELLING AND SIMULATION

`2020` `JOURNAL` `OTHER DATABASE` `MAIN AUTHOR`

26. MODELLING AND FUZZY LOGIC CONTROL OF AN UNDERACTUATED TOWER CRANE SYSTEM

APPLICATIONS OF MODELLING AND SIMULATION

`2020` `JOURNAL` `OTHER DATABASE` `CO-AUTHOR`

PUBLICATION

27. TRAJECTORY TRACKING OF A QUADROTOR WITH DISTURBANCE REJECTION USING EXTENDED STATE OBSERVER

2020 IEEE ASIA-PACIFIC CONFERENCE ON COMPUTER SCIENCE AND DATA ENGINEERING (CSDE)

`2020` `PROCEEDING` `NON-INDEX` `MAIN AUTHOR`

28. DESIGN OF A LOW-COST AUTOMATIC DISINFECTION CHAMBER

SEMINAR ANTARABANGSA ISLAM DAN SAINS (SAIS 2020)

`2020` `PROCEEDING` `NON-INDEX` `MAIN 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` `ISI` `MAIN AUTHOR`

30. INTELLIGENT OBSERVER-BASED FEEDBACK LINEARIZATION FOR AUTONOMOUS QUADROTOR CONTROL

INTERNATIONAL JOURNAL OF ENGINEERING & TECHNOLOGY (UAE)

`2018` `JOURNAL` `SCOPUS` `MAIN AUTHOR`

31. FEEDBACK LINEARIZATION WITH INTELLIGENT DISTURBANCE OBSERVER FOR AUTONOMOUS QUADROTOR WITH TIME-VARYING DISTURBANCE

INTERNATIONAL JOURNAL OF MECHANICAL AND MECHATRONICS ENGINEERING

`2018` `JOURNAL` `SCOPUS` `MAIN AUTHOR`

32. CONTROL STRATEGIES FOR CRANE SYSTEMS: A COMPREHENSIVE REVIEW

MECHANICAL SYSTEMS AND SIGNAL PROCESSING

`2017` `JOURNAL` `ISI` `CO-AUTHOR`

33. OPTIMAL FORMATION CONTROL OF MULTIPLE QUADROTORS BASED ON PARTICLE SWARM OPTIMIZATION

COMMUNICATIONS IN COMPUTER AND INFORMATION SCIENCE

`2017` `CHAPTER IN BOOK` `MAIN AUTHOR`

34. MODELING AND FORCE CONTROL OF THIN SOFT MCKIBBEN ACTUATOR

INTERNATIONAL JOURNAL OF AUTOMATION TECHNOLOGY

`2016` `JOURNAL` `SCOPUS` `CO-AUTHOR`

35. SYSTEM IDENTIFICATION AND PREDICTIVE FUNCTIONAL CONTROL FOR ELECTRO-HYDRAULIC ACTUATOR SYSTEM

2015 IEEE INTERNATIONAL SYMPOSIUM ON ROBOTICS AND INTELLIGENT SENSORS (IRIS)

`2015` `PROCEEDING` `NON-INDEX` `MAIN AUTHOR`

AWARDS/RECOGNITION

1. GOLD IN INNOVATION BANK CHALLENGE 2024 (IBC 2024)

`2024` `NATIONAL`

2. STAF CONTOH (JULAI 2024)

`2024` `OTHERS`

3. MUSOLLI COMPANION

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

`2024` `UNIVERSITI` `BRONZE`

4. INT-CART: INTELLIGENT SHOPPING CART ROBOT

4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)

`2024` `UNIVERSITI` `GOLD`

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

RESEARCH SEMINAR UNIVERSITI SAINS ISLAM MALAYSIA

`2024` `UNIVERSITI` `CERTIFICATE OF APPRECIATION`

6. ANUGERAH PERKHIDMATAN CEMERLANG (APC)

`2023` `UNIVERSITY`

7. PERSON-FOLLOWING TELEPRESENCE ROBOT USING YOLO DEEP LEARNING

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

`2023` `ANTARABANGSA` `SILVER`

8. PERSON-FOLLOWING TELEPRESENCE ROBOT USING YOLO DEEP LEARNING

INNOVATION BANK CHALLENGE 2023 (IBC2023)

`2023` `UNIVERSITI` `SILVER`

9. RUBBER TREE TRUNK HUMIDITY INSPECTOR

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRiiN 2022)

`2022` `ANTARABANGSA` `SILVER`

10. AUTONOMOUS PERSON-FOLLOWING TELEPRESENCE ROBOT USING DEEP LEARNING YOLO

NATIONAL INNOVATION AND INVENTION COMPETITION 2022 (NIICE 2022)

`2022` `KEBANGSAAN` `SILVER`

11. ANUGERAH E-PEMBELAJARAN - PLATFORM GOALS

`2020` `UNIVERSITY`