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DR. MUHAMMAD
MOKHZAINI BIN AZIZAN**

PENSYARAH UNIVERSITI DS14

CONTACT

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Faculty: Fakulti
Kejuruteraan Dan Alam
Bina

SUPERVISION

PhD - Completed: 2, Ongoing: 0

Master - Completed: 0,
Ongoing: 1

AREAS OF EXPERTISE

Electrical Power Generation And Supply

Power System

Renewable Energy

Image Processing And Pattern Recognition

Artificial Intelligence And Intelligent Systems For Life Sciences

ACADEMIC QUALIFICATION

PhD in Kejuruteraan Elektrik Dan Elektronik (2013)

Master in Kejuruteraan Elektrik Dan Elektronik (2009)

Bachelor in Kejuruteraan (kuasa Industri) (2006)

RESEARCH

1. INVESTIGATION OF THE IMPACT OF CORROSIVE SULFUR ON THE DIELECTRIC PERFORMANCE OF SUSTAINABLE ESTER-BASED TRANSFORMER OILS

2026 GERAN PENYELIDIKAN FUNDAMENTAL ON GOING CO-RESEARCHER

2. ADVANCING BATTERY MONITORING SYSTEM WITH STATE-OF-HEALTH METRIC AT JAYALAX RESOURCES

2025 GERAN KPT ON GOING CO-RESEARCHER

3. INTEGRATING BATTERY MONITORING SYSTEM WITH THE STATE-OF-HEALTH METRIC AT JAYALAX RESOURCES

2025 GERAN PENYELIDIKAN INDUSTRI ON GOING CO-RESEARCHER

4. QURANIC SIGN LANGUAGE DETECTION SYSTEM USING LSTM NEURAL NETWORK

2024 GERAN PENYELIDIKAN USIM ON GOING CO-RESEARCHER

5. FORMULATING THE ISLAMIC ENERGY GARDEN (IEG)
FRAMEWORK FOR SUSTAINABLE LIVING IN MALAYSIAN
CAMPUSES BASED ON MAQASID SHARIAH.

2024 GERAN PENYELIDIKAN USIM ON GOING CO-RESEARCHER

RESEARCH

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

2023 GERAN PENYELIDIKAN KHAS ON GOING CO-RESEARCHER

7. DEVELOPMENT OF DATA BASED ENERGY EFFICIENCY MANAGEMENT SYSTEM AT KAMPUS BAROKAH USIM FOR COST EFFECTIVE PRACTISE USING PREDICTIVE AND MACHINE LEARNING CAPABILITY

2022 GERAN PENYELIDIKAN USIM ON GOING MAIN RESEARCHER

8. BATTERY MONITORING SYSTEM FOR GENERATOR SETS

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-RESEARCHER

9. DEVELOPMENT OF MOBILE APPLICATION FOR "EDUCATIONAL GAMES FOR KIDS WITH LEARNING DISABILITIES: KID WONDERS - KINDERS"

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-RESEARCHER

10. CORROSION-IMPACT MODELLING FOR IMPACT PERFORMANCE INDEX FORMULATION ON OVERHEAD CONDUCTORS

2022 GERAN KPT ON GOING CO-RESEARCHER

11. SOLAR GREEN FACADE AND IOT - BASED SYSTEM FOR INDOOR AIR QUALITY TOWARDS A SUSTAINABLE LIFE OF 'SAKINAH'

2021 GERAN PENYELIDIKAN FLAGSHIP ON GOING CO-RESEARCHER

PUBLICATION

1. THERMAL CHARACTERISTICS OF TRAPEZOIDAL OVERHEAD CONDUCTORS EXPOSED TO GALVANIC CORROSION

JOURNAL OF ADVANCED RESEARCH IN FLUID MECHANICS AND THERMAL SCIENCES

2025 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

2. CLEMD, A CIRCUIT-LEVEL ELECTRICAL MEASUREMENTS DATASET FOR ELECTRICAL ENERGY MANAGEMENT

SCIENTIFIC DATA

2024 JOURNAL ISI CO-AUTHOR

3. A KINETIC STUDY OF EX-SITU SOIL REMEDIATION BY NICKEL EXTRACTION USING NATURAL DEEP EUTECTIC SOLVENT

ENVIRONMENTAL TECHNOLOGY

2024 JOURNAL OTHER DATABASE CO-AUTHOR

4. ANALYSIS OF ELECTRIC FIELD ON OVERHEAD DISTRIBUTION LINE DUE TO LIGHTNING STRIKE

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

2024 PROCEEDING NON-INDEX CO-AUTHOR

5. PALM OIL AS A TRANSFORMER INSULATING FLUID: A REVIEW

2024 POSTGRADUATE AND INDUSTRY RESEARCH COLLOQUIUM (PIRC)

2024 PROCEEDING NON-INDEX CO-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. POWER QUALITY - NEW INSIGHTS

2024 BOOK EDITOR

8. HIGH-TEMPERATURE LOW SAG CONDUCTOR: THE NEW TREND TO TRANSMIT ELECTRICITY

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK CO-AUTHOR

9. HIGH-TEMPERATURE LOW SAG CONDUCTOR: THE NEW TREND TO TRANSMIT ELECTRICITY

ADVANCEMENT IN ENGINEERING AND TECHNOLOGY

2024 CHAPTER IN BOOK CO-AUTHOR

10. TRIMODALITY IMAGE REGISTRATION OF ULTRASOUND, CARDIAC COMPUTED TOMOGRAPHY, AND MAGNETIC RESONANCE IMAGING FOR TRANSCATHETER AORTIC VALVE IMPLANTATION AND REPLACEMENT IMAGE GUIDANCE

HEALTH AND TECHNOLOGY

2023 JOURNAL SCOPUS CO-AUTHOR

11. FLEXIBLE SECTOR DETECTOR-BASED MISMATCH SUPPLY VOLTAGE IN DIRECT TORQUE CONTROL DOUBLY FED INDUCTION MACHINE: AN EXPERIMENTAL VALIDATION

AEJ - ALEXANDRIA ENGINEERING JOURNAL

2023 JOURNAL SCOPUS CORRESPONDING AUTHOR

12. OPTIMAL SIZING OF STANDALONE FOR HYBRID RENEWABLE ENERGY SYSTEM BY USING PSO OPTIMIZATION TECHNIQUE

INTERNATIONAL JOURNAL OF POWER ELECTRONICS AND DRIVE SYSTEMS

2023 JOURNAL SCOPUS CO-AUTHOR

13. ARTIFICIAL INTELLIGENCE-ASSISTED AIR QUALITY MONITORING FOR SMART CITY MANAGEMENT

PEERJ COMPUTER SCIENCE

2023 JOURNAL OTHER DATABASE CO-AUTHOR

PUBLICATION

14. AN IMPLEMENTATION FRAMEWORK OVERVIEW OF NON-INTRUSIVE LOAD MONITORING

JOURNAL OF SUSTAINABLE DEVELOPMENT OF ENERGY, WATER AND ENVIRONMENT SYSTEMS

2023 JOURNAL OTHER DATABASE CO-AUTHOR

15. A STACKED ENSEMBLE DEEP LEARNING APPROACH FOR IMBALANCED MULTI-CLASS WATER QUALITY INDEX PREDICTION

COMPUTERS, MATERIALS AND CONTINUA

2023 JOURNAL OTHER DATABASE CO-AUTHOR

16. POWER QUALITY - NEW INSIGHT

2023 BOOK EDITOR

17. INTRODUCTORY CHAPTER

POWER QUALITY - NEW INSIGHT

2023 CHAPTER IN BOOK MAIN AUTHOR

18. ARTIFICIAL INTELLIGENCE ENABLED PERSONALISED ASSISTIVE TOOLS TO ENHANCE EDUCATION OF CHILDREN WITH NEURODEVELOPMENTAL DISORDERS?A REVIEW

INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

19. COMPARISON TECHNIQUES FOR OPTIMIZATION SWITCHING FREQUENCY IN ENERGY ENCRYPTION OF WIRELESS POWER TRANSFER SYSTEM

JOURNAL OF ADVANCED RESEARCH IN APPLIED SCIENCES AND ENGINEERING TECHNOLOGY

2022 JOURNAL MYCITE CORRESPONDING AUTHOR

20. OPTIMAL SIZING OF A HYBRID SYSTEM THROUGH PARTICLE SWARM OPTIMIZATION FOR RURAL AREAS IN IRAQ

INDONESIAN JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE

2022 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

21. ASSESSMENT OF RENEWABLE ENERGY SOURCES TO GENERATE ELECTRICITY FOR REMOTE AREAS, SOUTH IRAQ

INTERNATIONAL JOURNAL OF POWER ELECTRONICS AND DRIVE SYSTEMS

2022 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

22. MICROCALCIFICATION DISCRIMINATION IN MAMMOGRAPHY USING DEEP CONVOLUTIONAL NEURAL NETWORK: TOWARDS RAPID AND EARLY BREAST CANCER DIAGNOSIS

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

23. MACHINE LEARNING APPROACH REGARDING THE CLASSIFICATION AND PREDICTION OF DOG SOUNDS: A CASE STUDY OF SOUTH INDIAN BREEDS

APPLIED SCIENCES-BASEL

2022 JOURNAL ISI MAIN AUTHOR / CONTACT PERSON IN USIM

24. WATER QUALITY INDEX USING MODIFIED RANDOM FOREST TECHNIQUE: ASSESSING NOVEL INPUT FEATURES

CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES

2022 JOURNAL ISI MAIN AUTHOR / CONTACT PERSON IN USIM

25. COVID-19 ISOLATION CONTROL PROPOSAL VIA UAV AND UGV FOR CROWDED INDOOR ENVIRONMENTS: ASSISTIVE ROBOTS IN THE SHOPPING MALLS

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

26. RLMD-PA: A REINFORCEMENT LEARNING-BASED MYOCARDITIS DIAGNOSIS COMBINED WITH A POPULATION-BASED ALGORITHM FOR PRETRAINING WEIGHTS

CONTRAST MEDIA & MOLECULAR IMAGING

2022 JOURNAL WOS CORRESPONDING AUTHOR

PUBLICATION

27. TOWARDS INTEGRATED AIR POLLUTION MONITORING AND HEALTH IMPACT ASSESSMENT USING FEDERATED LEARNING: A SYSTEMATIC REVIEW

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

28. SYSTEMATIC REVIEW ON COVID-19 READMISSION AND RISK FACTORS: FUTURE OF MACHINE LEARNING IN COVID-19 READMISSION STUDIES

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

29. PREDICTING OCCUPATIONAL INJURY CAUSAL FACTORS USING TEXT-BASED ANALYTICS: A SYSTEMATIC REVIEW

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA MAIN AUTHOR / CONTACT PERSON IN USIM

30. AN AUTOMATED SOLID WASTE DETECTION USING THE OPTIMIZED YOLO MODEL FOR RIVERINE MANAGEMENT

FRONTIERS IN PUBLIC HEALTH

2022 JOURNAL ERA CORRESPONDING AUTHOR

31. DEEP EUTECTIC SOLVENTS FOR THE REMOVAL OF LEAD CONTAMINANTS IN MANGROVE SOIL

JOURNAL OF ENVIRONMENTAL CHEMICAL ENGINEERING

2022 JOURNAL ERA CO-AUTHOR

32. PROSTATE CANCER MONITORING USING MRI MONOMODAL FEATURE-BASED REGISTRATION

JURNAL FIZIK MALAYSIA

2022 JOURNAL OTHER DATABASE CORRESPONDING AUTHOR

33. COMPARISON TECHNIQUES FOR OPTIMIZATION SWITCHING FREQUENCY IN ENERGY ENCRYPTION OF WIRELESS POWER TRANSFER SYSTEM

JOURNAL OF ADVANCED RESEARCH IN APPLIED SCIENCES AND ENGINEERING TECHNOLOGY

2022 JOURNAL OTHER DATABASE CO-AUTHOR

34. NON INTRUSIVE LOAD MONITORING BASED ON BAGGING DECISION TREES AND THE SELECTIVE FEATURES FOR COMMERCIAL BUILDING LOADS

2022 IEEE INTERNATIONAL CONFERENCE ON POWER AND ENERGY PECON2022

2022 PROCEEDING NON-INDEX CO-AUTHOR

35. COMPARISON OF NON-INTRUSIVE LOAD MONITORING SUPERVISED METHODS USING HARMONICS AS FEATURE

2022 INTERNATIONAL CONFERENCE ON ELECTRICAL, COMPUTER AND ENERGY TECHNOLOGIES (ICECET)

2022 PROCEEDING NON-INDEX CO-AUTHOR

36. ACHIEVING CARBON BALANCED ECOSYSTEM: CASE STUDY OF CARBON SEQUESTRATION ANALYSIS IN UNIVERSITI MALAYA

6TH KUALA LUMPUR INTERNATIONAL CONFERENCE ON BIOMEDICAL ENGINEERING 2021 PROCEEDINGS OF BIOMED2021

2022 CHAPTER IN BOOK CO-AUTHOR

37. SURFACE WATER QUALITY ASSESSMENT: A CASE STUDY OF MERBOK RIVER, KUALA MUDA, KEDAH

6TH KUALA LUMPUR INTERNATIONAL CONFERENCE ON BIOMEDICAL ENGINEERING 2021 PROCEEDINGS OF BIOMED2021

2022 CHAPTER IN BOOK CO-AUTHOR

38. SUSTAINABLE ENERGY AND POWER ENGINEERING

PROCEEDINGS OF THE 6TH INTERNATIONAL CONFERENCE ON ELECTRICAL, CONTROL AND COMPUTER ENGINEERING

2022 CHAPTER IN BOOK CO-AUTHOR

39. FEASIBILITY OF PV?WIND?DIESEL HYBRID RENEWABLE ENERGY POWER SYSTEM FOR OFF-GRID RURAL ELECTRIFICATION IN IRAQ: A CASE STUDY

JOURNAL OF ENGINEERING SCIENCE AND TECHNOLOGY

2021 JOURNAL SCOPUS MAIN AUTHOR / CONTACT PERSON IN USIM

PUBLICATION

40. WATER, SOIL AND AIR POLLUTANTS? INTERACTION ON MANGROVE ECOSYSTEM AND CORRESPONDING ARTIFICIAL INTELLIGENCE TECHNIQUES USED IN DECISION SUPPORT SYSTEMS - A REVIEW

IEEE ACCESS

2021 JOURNAL ISI MAIN AUTHOR / CONTACT PERSON IN USIM

41. PRIORITISATION ASSESSMENT AND ROBUST PREDICTIVE SYSTEM FOR MEDICAL EQUIPMENT: A COMPREHENSIVE STRATEGIC MAINTENANCE MANAGEMENT

FRONTIERS IN PUBLIC HEALTH

2021 JOURNAL ERA MAIN AUTHOR / CONTACT PERSON IN USIM

42. MULTISTAGE OPTIMIZATION USING A MODIFIED GAUSSIAN MIXTURE MODEL IN SPERM MOTILITY TRACKING

COMPUTATIONAL AND MATHEMATICAL METHODS IN MEDICINE

2021 JOURNAL ERA MAIN AUTHOR / CONTACT PERSON IN USIM

43. A SYSTEMATIC REVIEW OF MEDICAL EQUIPMENT RELIABILITY ASSESSMENT IN IMPROVING THE QUALITY OF HEALTHCARE SERVICES

FRONTIERS IN PUBLIC HEALTH

2021 JOURNAL ERA MAIN AUTHOR / CONTACT PERSON IN USIM

44. OBJECT DETECTION AND MOVEMENT TRACKING USING TUBELETS AND FASTER RCNN ALGORITHM WITH ANCHOR GENERATION

WIRELESS COMMUNICATIONS AND MOBILE COMPUTING

2021 JOURNAL WOS MAIN AUTHOR / CONTACT PERSON IN USIM

45. BRAIN TUMOUR TEMPORAL MONITORING OF INTERVAL CHANGE USING DIGITAL IMAGE SUBTRACTION TECHNIQUE

FRONTIERS IN PUBLIC HEALTH

2021 JOURNAL ERA CO-AUTHOR

46. SURFACE WATER QUALITY ASSESSMENT: A CASE STUDY OF MERBOK RIVER, KUALA MUDA, KEDAH

THE 6TH INTERNATIONAL CONFERENCE ON BIOMEDICAL ENGINEERING

2021 PROCEEDING NON-INDEX CO-AUTHOR

47. ACHIEVING CARBON-BALANCED ECOSYSTEM: CASE STUDY OF CARBON SEQUESTRATION ANALYSIS IN UNIVERSITI MALAYA

THE 6TH INTERNATIONAL CONFERENCE ON BIOMEDICAL ENGINEERING

2021 PROCEEDING NON-INDEX CO-AUTHOR

48. COMPARISON OF ALGEBRAIC RECONSTRUCTION TECHNIQUE METHODS AND GENERATIVE ADVERSARIAL NETWORK IN IMAGE RECONSTRUCTION OF MAGNETIC INDUCTION TOMOGRAPHY (MIT)

INTERNATIONAL CONFERENCE ON BIOMEDICAL ENGINEERING (ICOB E 2021) 14, 15 SEPTEMBER 2021, UNIMAP, MALAYSIA (VIRTUAL)

2021 PROCEEDING NON-INDEX CO-AUTHOR

CONSULTATION

1. TECHNICAL EVALUATOR SECARA FREELANCE

TNB LABS SDN BHD

2023

NATIONAL

2. TECHNICAL EVALUATOR SECARA FREELANCE UNTUK TNB LABS SDN BHD

TNB LABS SDN BHD

2022

NATIONAL

3. PROGRAM PENINGKATAN PERUSAHAAN SOSIAL ASAS B40 MELALUI TEKNOLOGI APLIKASI TELEFON IBOSS

IBOSS INNOVATIVES SDN BHD

2022

NATIONAL

4. Battery Storage Management System (BSMS) and Technical Knowledge Training

Technopreneur UniMAP Sdn Bhd

National

AWARDS/RECOGNITION

1. CURRICULUM ADVISOR (PENASIHAT KURIKULUM)

JABATAN PENDIDIKAN POLITEKNIK DAN KOLEJ KOMUNITI KEMENTERIAN PENDIDIKAN TINGGI

2025 NATIONAL

2. EDUGARDENXR: AN AR/VR-BASED ISLAMIC ENERGY GARDEN FOR SHARIAH-COMPLIANT SUSTAINABLE LEARNING

INNOVATION BANK CHALLENGE 2025

2025 ANTARABANGSA GOLD

3. BEST INNOVATION AWARD (CLASS A) - INDOOR COMFORT ENVIRONMENT ICE BOX

2024 INTERNATIONAL

4. ICE BOX

ICOMPEX 2024- international innovation and invention through exhibition 2024

2024 ANTARABANGSA GOLD

5. INDOOR COMFORT ENVIRONMENT ICE BOX

ICOMPEX 2024- international innovation and invention through exhibition 2024

2024 ANTARABANGSA CERTIFICATE OF APPRECIATION

6. INDOOR COMFORT ENVIRONMENT ICE BOX (BEST INNOVATION AWARD)

ICOMPEX 2024- international innovation and invention through exhibition 2024

2024 ANTARABANGSA

7. ACADEMIC ADVISOR

POLITEKNIK UNGKU OMAR

2023 NATIONAL

8. ACADEMIC ADVISOR

UNIVERSITI MALAYSIA PAHANG AL-SULTAN ABDULLAH UMPSA

2023 NATIONAL

9. ACADEMIC ADVISOR

UNIVERSITI MALAYSIA PAHANG AL-SULTAN ABDULLAH (UMPSA)

2023 NATIONAL

10. ICE BOX (INDOOR, COMFORT, ENVIRONMENT)

34th INTERNATIONAL INVENTION & TECHNOLOGY EXHIBITION MALAYSIA (ITEX2023)

2023 ANTARABANGSA GOLD

11. ANUGERAH PENULIS AKTIF (Q1/Q2)

2022 UNIVERSITY

12. VISITING PROFESOR

INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS) SURABAYA, INDONESIA

2022 INTERNATIONAL

13. VISITING PROFESOR

INSTITUT TEKNOLOGI SEPULUH NOPEMBER (ITS) SURABAYA, INDONESIA

2022 INTERNATIONAL

14. SMART PARCEL DROP BOX

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022)

2022 ANTARABANGSA SILVER

AWARDS/RECOGNITION

15. IOT- BASED BATTERY MONITORING SYSTEM

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022)

2022

ANTARABANGSA

SILVER

16. ICE BOX (INDOOR, COMFORT, ENVIRONMENT)

Persidangan dan Ekspo Ciptaan Institusi Pengajian Tinggi Antarabangsa (PECIPTA22)

2022

ANTARABANGSA

GOLD

17. RUBBER TREE TRUNK HUMIDITY INSPECTOR

PERTANDINGAN REKACIPTA INOVASI INTERNASIONAL & NASIONAL 2022 (PRIIN 2022)

2022

ANTARABANGSA

SILVER