

PROF. MADYA TS. DR. M NORAZIZI SHAM BIN MOHD SAYUTI

PENSYARAH UNIVERSITI DS14

## **CONTACT**

**Phone:** 88730

E-mail: azizi@usim.edu.my

Faculty: Fakulti Kejuruteraan

Dan Alam Bina

## **SUPERVISION**

PhD - Completed: 2, Ongoing: 1 Master - Completed: 0, Ongoing: 1

## AREAS OF EXPERTISE

Industrial Optimisation And Control
System-on-chip (soc)
Embedded Systems
Neural, Evolutionary And Fuzzy Computation
Mathematical Programming And Optimisation

## **ACADEMIC QUALIFICATION**

PhD (2015)

Machine Learning

Master in Software Engineering (2004) Bachelor in Electronic Engineering (2001)

### RESEARCH

1. UNCERTAINTY MODELLING WITH STOCHASTIC PROCESS FOR ROBUST REAL-TIME SCHEDULABLILTIY ANALYSIS

2023 GERAN PENYELIDIKAN USIM ON GOING MAIN RESEARCHER

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

2022 GERAN PENYELIDIKAN AGENSI KERAJAAN COMPLETED CO-

3. AI-BASED STUDENT ATTENDANCE AND ENGAGEMENT ALGORITHM IN SOC-FPGA

2022 BIDUNI MIZANNIYAH COMPLETED MAIN RESEARCHER

4. AUTONOMOUS HUMAN DETECTION AND LOCALIZATION USING MACHINE LEARNING

2021 GERAN KPT (KKP) COMPLETED CO-RESEARCHER

5. BALANCED COVER AUDIO SUGGESTION FOR AUDIO STEGANOGRAPHY ALGORITHM BASED ON NSGA-II, SEGMENTATION AND CHAOTIC MAP

2020 GERAN KPT COMPLETED CO-RESEARCHER

## RESEARCH

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6. MODELLING AND CONTROL OF AN AERIAL TRANSPORTATION SYSTEM CARRYING SUSPENDED PAYLOAD
2020 GERAN PENYELIDIKAN USIM RACER COMPLETED CO-RESEARCHER
7. MODELLING AND ANALYSIS OF COVID-19 SPREADING PROCESS ON COMPLEX NETWORKS
2020 GERAN PENYELIDIKAN COVID-19 COMPLETED MAIN RESEARCHER
8. DEVELOPMENT OF HOME LELECTROCARDIOGRAM ASSESMENT REALIABLE TOOL (HEART): A CLOUD BASED,
WEARABLE, WIRELESS, SINGLE-LEAD ELECTROCARDIOGRAM
2019 GERAN SEPADAN INDUSTRI ON GOING CO-RESEARCHER
9. SECURITY-HARDENED DESIGN SPACE EXPLORATION FOR HARD REAL-TIME EMBEDDED NOC IN CYBER-PHYSICAL
SYSTEMS
2018 GERAN PENYELIDIKAN USIM COMPLETED CO-RESEARCHER
10. EVOLUTIONARY MULTI-OBJECTIVE OPTIMIZATION FOR COVER AUDIO SELECTION IN AUDIO STEGANOGRAPHY
2017 GERAN KPT COMPLETED CO-RESEARCHER
11. A NEW MODEL FOR CONTENT UNDERSTANDING AND KNOWLEDGE DISSEMINATION OF THE QURAN USING
INTELLIGENT DATA MODEL
2016 GERAN KPT COMPLETED CO-RESEARCHER
12. A NEW CRYPTOGRAPHHY ALGORITHM DERIVED FROM QURANIC MAQAMAT FOR PREVENTING ACCOUSTIC ATTACKS.
2016 GERAN KPT COMPLETED CO-RESEARCHER
13. ANALYSIS OF ACOUSTIC EMANATION BEHAVIOURAL CHARACTERISTICS AND QURANIC MAQAMAT ON AES-BASED
BLOCK CIPHER
2016 GERAN KPT COMPLETED MAIN RESEARCHER
14. SIMULANEOUS EXPLORATION OF MAPPING AND ROUTING ON HARD REAL-TIME EMBEDDED NETWORKS-ON-CHIP
2016 GERAN JANGKA PENDEK FASA 1 COMPLETED MAIN RESEARCHER
15. THE DESIGN AND EVALUATION OF AN INTERACTIVE QIRAAT MOBILE APPLICATION
2015 GERAN PENYELIDIKAN JANGKA PENDEK COMPLETED CO-RESEARCHER
16. A NEW MULTI-RELATIONAL LATENT SEMANTIC ANALYSIS MODEL FOR EXTRACTING PROPHETIC HADITH CONCEPT
2014 GERAN KPT COMPLETED CO-RESEARCHER
17. SECURING CRYPTOGRAPHIC KEY USING FINGER VEIN BASED FUZZY VAULT
2011 GERAN PENYELIDIKAN FUNDAMENTAL COMPLETED CO-RESEARCHER
18. SEGEMENTATION OF MALARIA PARASITES ON STAINED BLOOD FILMS
2011 GERAN PENYELIDIKAN FUNDAMENTAL COMPLETED CO-RESEARCHER
19. DESIGN OF AN IMPROVED SECURE KEY MANAGEMENT PROTOCOL IN MULTICAST COMMUNICATION
2011 GERAN PENYELIDIKAN FUNDAMENTAL COMPLETED CO-RESEARCHER
20. COMPARISON STUDY BETWEEN EXPECTATION & EXPERIENCE OF ICT PROVISION IN UNIVERSITY
2009 GERAN PENYELIDIKAN PANTAS BAWAH SETAHUN COMPLETED MAIN RESEARCHER
21. KAJIAN PEMBANGUNAN KANDUNGAN PROJEK SISTEM PENGURUSAN FATWA (FMS) INFAD
2008 GERAN KPT COMPLETED CO-RESEARCHER
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#### 1. A CNN PLASTIC DETECTION MODEL FOR EMBEDDED PLATFORM OF ROV

1ST INTERNATIONAL CONFERENCE ON ADVANCES IN MACHINE INTELLIGENCE, AND CYBERSECURITY TECHNOLOGIES (AMICT)

2024 PROCEEDING WOS CO-AUTHOR

2. IMPROVING DYNAMIC SECURITY OF THE LEAST SIGNIFICANT BIT USING BLOCK-BASED CHAOTIC MULTI-LEVEL LSB (BCM-LSB)

THE 9TH INTERNATIONAL CONFERENCE ON CYBER SECURITY, PRIVACY IN COMMUNICATION NETWORKS (ICCS 2023)

2024 PROCEEDING SCOPUS CORRESPONDING AUTHOR

3. OPTIMISED COVER SELECTION FOR AUDIO STEGANOGRAPHY USING MULTI-OBJECTIVE EVOLUTIONARY ALGORITHM
JOURNAL OF INFORMATION AND COMMUNICATION TECHNOLOGY

2023 JOURNAL SCOPUS CO-AUTHOR

#### 4. A METHOD OF COVER AUDIO SELECTION FOR EMBEDDING BASED ON VARIOUS CRITERIA

1ST INTERNATIONAL CONFERENCE ON ADVANCES IN MACHINE INTELLIGENCE, AND CYBERSECURITY TECHNOLOGIES (AMICT2023)

2023 PROCEEDING NON-INDEX CORRESPONDING AUTHOR

5. REAL-TIME NETWORKS-ON-CHIP SYSTEM-LEVEL DESIGN SPACE EXPLORATION

2023 BOOK MAIN AUTHOR

#### 6. INTEGRATED CIRCUIT CHIP FABRICATION

TECHNOLOGIES IN SCIENCE AND ENGINEERING A MULTIDISCIPLINARY APPROACH

2023 CHAPTER IN BOOK MAIN AUTHOR

# 7. A NEW METHOD TO ESTIMATE PEAK SIGNAL TO NOISE RATIO FOR LEAST SIGNIFICANT BIT MODIFICATION AUDIO STEGANOGRAPHY

PERTANIKA JOURNAL OF SCIENCE AND TECHNOLOGY

2022 JOURNAL ISI, SCOPUS AND ERA CO-AUTHOR

8. QURANIC ACOUSTIC AN ANALYIS FOR CRYTOGRAPHIC APPLICATION

2022 BOOK EDITOR

#### 9. PROFILING OF QURANIC MAQAMAT USING AN ENHANCED AUDIO FEATURE EXTRACTION METHOD

QURANIC ACOUSTIC AN ANALYIS FOR CRYTOGRAPHIC APPLICATION

2022 CHAPTER IN BOOK CORRESPONDING AUTHOR

#### 10. INTRODUCTION

QURANIC ACOUSTIC AN ANALYIS FOR CRYTOGRAPHIC APPLICATION

2022 CHAPTER IN BOOK MAIN AUTHOR

#### 11. FAULT CRYPTANALYSIS ON ADVANCED ENCRYPTION STANDARD

QURANIC ACOUSTIC AN ANALYIS FOR CRYTOGRAPHIC APPLICATION

2022 CHAPTER IN BOOK CORRESPONDING AUTHOR

# 12. ESTABLISHING A CORRELATION BETWEEN ACOUSTICAL PROPERTIES IN MAQAMAT RECITATION AND MEANING OF SURAHS IN JUZ? AMMA USING AUDIO FEATURE EXTRACTION METHOD

QURANIC ACOUSTIC AN ANALYIS FOR CRYTOGRAPHIC APPLICATION

2022 CHAPTER IN BOOK CORRESPONDING AUTHOR

## 13. CELSIUS TRACKER: A MOBILE APPLICATION TO EASE MOVEMENT CONTROL ORDER PROCEDURE DURING COVID-19 PANDEMIC

15TH INTERNATIONAL CONFERENCE ON OPEN SOURCE SYSTEMS AND TECHNOLOGIES (ICOSST)

2021 PROCEEDING NON-INDEX MAIN AUTHOR

14. A NEW METHOD TO ESTIMATE PEAK SIGNAL TO NOISE RATIO FOR LEAST SIGNIFICANT BIT MODIFICATION AUDIO STEGANOGRAPHY

INTERNATIONAL CONFERENCE ON RECENT ADVANCEMENTS OF SCIENCE AND TECHNOLOGY

2020 PROCEEDING NON-INDEX CO-AUTHOR

15. ON SELECTED ISSUES OF BOOLEAN FUNCTION APPLICATION IN SYMMETRIC KEY CRYPTOGRAPHY AGAINST SIDE CHANNEL ATTACKS

JOURNAL OF PHYSICS: CONFERENCE SERIES

2019 JOURNAL SCOPUS CO-AUTHOR

16. TASK MAPPING AND ROUTING OPTIMIZATION FOR HARD REAL-TIME NETWORKS-ON-CHIP

BULLETIN OF ELECTRICAL ENGINEERING AND INFORMATICS

2019 JOURNAL SCOPUS MAIN AUTHOR

17. SUBSTITUTION BOX DESIGN BASED FROM SYMMETRIC GROUP COMPOSITION

JOURNAL OF PHYSICS: CONFERENCE SERIES

2019 JOURNAL SCOPUS CO-AUTHOR

18. BALANCING THE TRADE-OFF BETWEEN CAPACITY AND IMPERCEPTIBILITY FOR LEAST SIGNIFICANT BIT AUDIO STEGANOGRAPHY METHOD: A NEW PARAMETER

2019 IEEE CONFERENCE ON APPLICATION, INFORMATION AND NETWORK SECURITY (AINS)

2019 PROCEEDING NON-INDEX CO-AUTHOR

19. OUTCOME-BASED EDUCATION FOR ENGINEERING PROGRAMME A CASE STUDY OF USIM

2019 BOOK CO-AUTHOR

20. HARD REAL-TIME EMBEDDED NOC DESIGN SPACE EXPLORATION

ADVANCES IN SUSTAINABLE LIVING ENGINEERING & BUILT ENVIRONMENT

2019 CHAPTER IN BOOK MAIN AUTHOR

21. A SYSTEMATIC REVIEW ON SEMANTIC-BASED ONTOLOGY FOR QURANIC KNOWLEDGE

INTERNATIONAL JOURNAL OF ENGINEERING AND TECHNOLOGY(UAE)

2018 JOURNAL SCOPUS CO-AUTHOR

22. FORMATIVE EVALUATION OF AN EDUCATIONAL MOBILE APPLICATION: AN INTERACTIVE MYQIRAAT APPLICATION

INTERNATIONAL JOURNAL OF ENGINEERING AND TECHNOLOGY(UAE)

2018 JOURNAL SCOPUS CO-AUTHOR

23. SIMULTANEOUS MULTI-OBJECTIVE OPTIMISATION FOR LOW-POWER REAL-TIME NETWORKS-ON-CHIP

4TH INTERNATIONAL CONFERENCE ON ELECTRICAL, ELECTRONICS AND SYSTEM ENGINEERING (ICEESE2018)

2018 PROCEEDING NON-INDEX MAIN AUTHOR

24. SIMULTANEOUS TASK MAPPING AND ROUTING OPTIMIZATION FOR SCHEDULING HARD REAL-TIMEEMBEDDED NOCS

THE 4TH INTERNATIONAL CONFERENCE ON ELECTRONIC DESIGN (ICED 2018)

2018 PROCEEDING NON-INDEX MAIN AUTHOR

25. COMPACT U-SHAPED SLOTTED ANTENNA WITH CONDUCTOR-BACKED PLANE FOR ULTRA-WIDEBAND (UWB) APPLICATIONS

3RD INTERNATIONAL CONFERENCE ON ELECTRICAL, ELECTRONIC, COMMUNICATION AND CONTROL ENGINEERING (ICEECC 2018)

2018 PROCEEDING NON-INDEX CO-AUTHOR

26. THE DESIGN EVALUATION OF AN INTERACTIVE QIRAAT MOBILE APPLICATION

ADVANCED SCIENCE LETTERS

2017 JOURNAL SCOPUS CO-AUTHOR

#### 27. CURRENT IMPLEMENTATION OF ADVANCE ENCRYPTION STANDARD (AES) S-BOX

JOURNAL OF FUNDAMENTAL AND APPLIED SCIENCES

2017 JOURNAL SCOPUS CO-AUTHOR

28. THE QURANIC PHILOSOPHY ON SUPERIORITY OF AUDIO SENSE AGAINST VISUAL SENSE BASED ON THE BOOK OF EXEGESIS AND SCIENCE REPORTS

ADVANCED SCIENCE LETTERS

2017 JOURNAL SCOPUS CO-AUTHOR

#### 29. A SYSTEMATIC REVIEW ON SEMANTIC-BASED ONTOLOGY FOR QURANIC KNOWLEDGE

INTERNATIONAL CONFERENCE ON INFORMATION SYSTEMS & SECURITY (ICOISS)

2017 PROCEEDING NON-INDEX CO-AUTHOR

30. FORMATIVE EVALUATION OF AN EDUCATIONAL MOBILE APPLICATION: AN INTERACTIVE MYQIRAAT APPLICATION INTERNATIONAL CONFERENCE ON INFORMATION SYSTEMS & SECURITY (ICOISS)

2017 PROCEEDING NON-INDEX CO-AUTHOR

#### 31. THE DESIGN EVALUATION OF AN INTERACTIVE QIRAAT MOBILE APPLICATION

WORLD INTERNATIONAL CONFERENCE ON ISLAMIC SCIENCES (WICOIS)

2016 PROCEEDING NON-INDEX CO-AUTHOR

32. INDUSTRIAL TRAINING HANDBOOK FOR ENGINEERING PROGRAM

2016 BOOK MAIN AUTHOR

## 33. SIMULTANEOUS OPTIMISATION OF TASK MAPPING AND PRIORITY ASSIGNMENT FOR REAL-TIME EMBEDDED NOCS

23RD EUROMICRO INTERNATIONAL CONFERENCE ON PARALLEL, DISTRIBUTED AND NETWORK-BASED PROCESSING

2015 PROCEEDING NON-INDEX MAIN AUTHOR

#### 34. A FUNCTION FOR HARD REAL-TIME SYSTEM SEARCH-BASED TASK MAPPING OPTIMISATION

REAL-TIME DISTRIBUTED COMPUTING (ISORC), 2015 IEEE 18TH INTERNATIONAL SYMPOSIUM ON

2015 PROCEEDING NON-INDEX MAIN AUTHOR

## 35. A CONSTRUCTIVE TASK MAPPING ALGORITHM FOR HARD REAL-TIME EMBEDDED NOCS

IEEE CONFERENCE ON SYSTEM, PROCESS & CONTROL (ICSPC2015)

2015 PROCEEDING NON-INDEX MAIN AUTHOR

# 36. INEXACT END-TO-END RESPONSE TIME ANALYSIS AS FITNESS FUNCTION IN SEARCH-BASED TASK ALLOCATION HEURISTICS FOR HARD REAL-TIME NETWORK-ON-CHIPS

9TH INTERNATIONAL SYMPOSIUM ON RECONFIGURABLE AND COMMUNICATION-CENTRIC SYSTEMS-ON-CHIP (RECOSOC)

2014 PROCEEDING NON-INDEX CO-AUTHOR

# 37. FINGER VEIN MINUTIAE POINTS EXTRACTION BASED ON MAXIMUM CURVATURE POINTS IN IMAGE PROFILE AND FINGER PRINT APPLICATION METHODS

AUSTRALIAN JOURNAL OF BASIC AND APPLIED SCIENCES

2013 JOURNAL WOS CO-AUTHOR

## 38. AN OPTIMISATION ALGORITHM FOR MINIMISING ENERGY DISSIPATION IN NOC-BASED HARD REAL-TIME EMBEDDED SYSTEMS

21ST INTERNATIONAL CONFERENCE ON REAL-TIME NETWORKS AND SYSTEMS

2013 PROCEEDING NON-INDEX MAIN AUTHOR

#### 39. REAL-TIME LOW-POWER TASK MAPPING IN NETWORKS-ON-CHIP

IEEE COMPUTER SOCIETY ANNUAL SYMPOSIUM ON VLSI (ISVLSI)

2013 PROCEEDING NON-INDEX MAIN AUTHOR

#### 40. DESIGN OF IMPROVEMENT SECURE KEY MANAGEMENT IN MULTICAST COMMUNICATION

1ST AKEPT YOUNG RESEARCHERS CONFERENCE AND EXHIBITION

2011 PROCEEDING NON-INDEX CO-AUTHOR

#### 41. A DESIGN OF GRID SUPPORTED SERVICES FOR MOBILE LEARNING SYSTEM

2ND INTERNATIONAL CONFERENCE ON COMPUTER RESEARCH AND DEVELOPMENT

2010 PROCEEDING NON-INDEX MAIN AUTHOR

#### 42. EXPECTATION & EXPERIENCE OF ICT IN UNIVERSITY: A COMPARATIVE STUDY

18TH INTERNATIONAL CONFERENCE ON COMPUTERS IN EDUCATION

2010 PROCEEDING NON-INDEX MAIN AUTHOR

#### 43. IMPROVING SOFTWARE MAINTENANCE PROCESS USING INTERRELATED SET FROM FOSS

3RD INTERNATIONAL CONFERENCE ON INFORMATICS AND TECHNOLOGY

2009 PROCEEDING NON-INDEX MAIN AUTHOR

## **CONSULTATION**

1. INDKOM ENGINEERING ERP PROJECT

INDKOM ENGINEERING SDN. BHD.



2015 NATIONAL

## **AWARDS/RECOGNITION**

1. ANUGERAH SUKAN DAN REKREASI  2024 UNIVERSITY
2. ANUGERAH BUKU ILMIAH TERBAIK  2024 UNIVERSITY
3. ANUGERAH PERKHIDMATAN SETIA  2024 UNIVERSITY
4. ANUGERAH BUKU ILMIAH TERBAIK  2024 UNIVERSITY
5. ANUGERAH STAF CONTOH DISEMBER 2023  2024 UNIVERSITY
6. SELF DIAGNOSIS ALGORITHMS: LEVERAGING MACHINE LEARNING FOR PERSONALIZED HEALTHCARE SOLUTIONS 4TH INNOVATION BANK CHALLENGE 2024 (IBC 2024)  UNIVERSITI SILVER
7. ANUGERAH IKON SUKAN FKAB  2023 UNIVERSITY
8. A NEW CRYPTOGRAPHY ALGORITHM DERIVED FROM QURANIC MAQAMAT FOR PREVENTING DIFFERENTIAL FAULT ANALYSIS INNOVATION BANK CHALLENGE 2023 (IBC2023)  UNIVERSITI SILVER
9. A METHOD OF COVER AUDIO SELECTION FOR EMBEDDING BASED ON VARIOUS CRITERIA International Conference on Advances in Machine Intelligence and Cybersecurity Technologies (AMICT)  ANTARABANGSA  BEST PAPER AWARD
10. UTILIZING MULTI-CHARACTERISTIC-BASED COVER AUDIO SELECTION (MCAS) FOR SECURE COMMUNICATION FINAL YEAR PROJECT & POSTGRADUATE: RESEARCH & INNOVATION POSTER COMPETITION (RIPC) SERIES 2/2022  UNIVERSITI BRONZE
11. SMART BI-CAR  NATIONAL INNOVATION AND INVENTION COMPETITION 2022 (NIICE 2022)  2022 KEBANGSAAN SILVER
12. SMART BI-CAR INTEGRATED DESIGN PROJECT SHORT VIDEO COMPETITION 2022  (2022 KEBANGSAAN SILVER
13. COVER-SELECTION-BASED AUDIO STEGANOGRAPHY (CAS) BASED ON LEAST SIGNIFICANT BIT (LSB) FOR BALANCED PERFORMANCE INNOVATION BANK CHALLENGE (IBC 2022)  UNIVERSITI GOLD
14. VISITING SCHOLAR  MOHE INTEL ELITE INTERNSHIP PROGRAM  2021 INTERNATIONAL

## AWARDS/RECOGNITION

# 15. COVID-19 BODY TEMPERATURE TRACKER: A MOBILE APPLICATION TO EASE MOVEMENT CONTROL ORDER PERTANDINGAN REKACIPTA INOVASI NASIONAL (PRIN) 2021

2021 ANTARABANGSA BRONZE

**16. CELSIUS TRACKER** 

INNOVATION BANK CHALLENGE (IBC 2021)

2021 UNIVERSITI BRONZE

17. PENCAPAIAN PRESTASI CEMERLANG TAHUN 2018

2019 UNIVERSITY

18. STUDY OF PERFOMANCES OF ANTENNA DESIGN FOR ULTRA-WIDEBAND APPLICATIONS

INVENTION, INNOVATION & DESIGN EXPOSITION 2019 (iidex2019)

2019 ANTARABANGSA BRONZE

19. ANUGERAH PERKHIDMATAN CEMERLANG 2017

2018 UNIVERSITY

20. PENCAPAIAN PRESTASI CEMERLANG TAHUN 2017

2018 UNIVERSITY

21. VISITING SCHOLAR

ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS (ICTP)

2018 INTERNATIONAL

22. STAF CONTOH SEPTEMBER 2017

2017 UNIVERSITY

23. THE K. M. STOTT PRIZE

2015 UNIVERSITY

24. MALAYSIAN GOVERNMENT SCHOLARSHIP AWARD

2011 NATIONAL

25. MALAYSIAN GOVERNMENT SCHOLARSHIP AWARD

2000 NATIONAL