

Dr. Murtadha Arif Bin Sahbudin, (Phd)

Educator & Computer Scientist

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🌐 <https://www.linkedin.com/in/arifsahbudin/> 📍 Malaysia



PROFILE

Experienced Senior Lecturer with expertise in research and teaching at the Faculty of Science and Technology. Active member of the Healthcare Systems group and the HPC Lab project. Skilled in managing complex IT projects, including audio signal processing and multi-cloud storage solutions, as well as designing and deploying IT infrastructure. Proven with a strong track record in enhancing technology and business processes.

EXPERIENCE

Senior Lecturer

[Universiti Sains Islam Malaysia](#) 2021 - Present Malaysia
Public University

- Delivering lectures and managing coursework in a variety of subjects within the field of computer science.
- Conducting and publishing research in Healthcare Systems.
- Collaborating with colleagues on the High Performance Computing Lab (HPC) project, contributing to its development and success.

Research Doctorate

[Università degli Studi di Messina](#) 2017 - 2021 Italy
Public University

- Teaching and supervising both postgraduate and undergraduate students in computing subjects.
- Designed a robust system for audio identification and fingerprinting from FM Radio Broadcasting signals.
- Developed an IoT and API-based system for retrieving audio analog signals from FM broadcasts.
- Publishing research findings in enhanced system efficiency through database clustering models.
- Publishing research findings new song fingerprinting method to advance existing research.

Lecturer

[Asia Pacific University of Technology & Innovation](#) 2017 Malaysia
Private University

- Taught undergraduate students web technologies, including development, scripting, and servers.
- Prepared and delivered regular lectures, tutorials, seminars, and laboratory classes.
- Supervised undergraduate final year projects.

Distribution & Logistics Manager

[BMW & MINI Auto Bavaria](#) 2013 - 2014 Malaysia
Automotive

- Managed BMW and MINI vehicle stock, ensuring supply allocation to dealerships.
- Oversaw employee teams for vehicle ordering and warehouse management.
- Arranged new vehicle registrations with The Road Transport Department Malaysia.
- Analyzed sales targets and supported business decisions.

INDUSTRY EXPERTISE

Education

Research

Project Management

EDUCATION

PhD. in Cyber-Physical System

[Università degli Studi di Messina](#)
2017 - 2020 Italy

MSc. in Advance Computer Science (Distinction)

[University of Sheffield](#)
2016 - 2017 United Kingdom

BSc (Hons) in Information System Engineering

[University of Technology MARA](#)
2006 - 2009 Malaysia

Diploma in Computer Science

[University of Technology MARA](#)
2004 - 2007 Malaysia

SKILLS

Backend Programming - Python, Java, C#, C++, FOTRAN

Frontend Programming - React, Angular, HTML, JavaScript, PHP, Swift, NodeJS

Cloud Computing - GitHub, Google Cloud, Azure, Kubernetes, OpenStack

Machine Learning - TensorFlow, PyTorch, Anaconda, Keras

Numerical Tools - Octave, MATLAB, R

Database -MySQL, Azure, FirebaseDB, MongoDB, PostgreSQL, Oracle, MariaDB

EXPERIENCE

IT Project Manager

[Sime Darby Motors](#) 2011 - 2013 Malaysia
IT Systems

- Maintained and supported IT infrastructure for all BMW & MINI Auto Bavaria dealerships throughout Malaysia.
- Certified specialist support in BMW & MINI vehicle diagnostic hardware and software tools.
- Managed IT projects and building renovations, including CCTV, security access, and fire systems.
- Provided technical support for software and hardware issues.

Programmer

[Sime Darby Motors](#) 2008 - 2011 Malaysia
IT Systems

- Programmed UNIX-based systems using Progress programming language and Web Java Platform.
- Designed and developed transactional and analytical data structures for vehicle business processes.
- Modified software for improvements, integrated new hardware, and enhanced performance.

PUBLICATIONS

Systematic Literature Review on Current Trend Analysis in Epidemic Intelligence for Infectious Disease Surveillance

[In Review - PeerJ Computer Science Journal](#)

H. A. K. Aryffin, M. A. B. Sahbudin, S. A. Pitchay, A. H. Ab Halim, I.K. Sahbudin
2024

Direction of Enhancing Epidemic Intelligence from Open Sources (EIOS) for Localized COVID-19 Management in Malaysia

[In Review - Malaysian Journal of Science Health & Technology](#)

H. A. K. Aryffin, M. A. B. Sahbudin, S. A. Pitchay, A. H. Ab Halim, I.K. Sahbudin
2024

Health Informatics Systems

Beyond the Outbreak: A Review of Big Data Analytics in Proactive Infectious Disease Prevention for Risk Mitigation

[In Review - Springer Link, Journal of Big Data](#)

N. Nuha, S. A. Pitchay, M. A. B. Sahbudin, A. H. Ab Halim, I.K. Sahbudin
2024

Health Informatics Systems

A New Fingerprint Definition For Effective Song Recognition

[Elsevier, Pattern Recognition Letters Journal](#)

S. Serrano, M. A. B. Sahbudin, C. Chaouch, and M. Scarpa
2022 <https://doi.org/10.1016/j.patrec.2022.06.009>

Music Recognition

Application-Programming Interface(API) for Song Recognition Systems

[Advances in Science, Technology and Engineering Systems Journal](#)

M. A. B. Sahbudin, C. Chaouch, M. Scarpa, and S. Serrano,
2021 <http://dx.doi.org/10.25046/aj060298>

Music Recognition

SKILLS

Multimedia - Photoshop, Illustrator, Premier, Animate, Audacity

Network - Wireshark, Cisco Packet Tracer

Operating Systems - Unix/Linux, Windows, MacOS, Andriod

LANGUAGES

English Native

Malay Native

Italian Intermediate

Arabic Beginner

AWARDS

Fundamental Research Grant 2023

Awarded Research Funding by Ministry of Higher Education Malaysia

Scholarship Research Doctorate 2017

Awarded Research Funding by Ministry for Education, University and Research Italy

Scholarship Masters Degree Program 2015

Awarded sponsorship for Masters Degree by Ministry of Higher Education Malaysia

Scholarship Bachelor Degree Program 2009

Awarded sponsorship for Bachelors Degree by Yayasan Sime Darby Malaysia

PROJECTS

Infectious Disease Monitoring

2023 - Present University Sains Islam Malaysia
Lead researcher for a national research project specializing in healthcare systems. The scope of the project involves public health control and infectious disease monitoring, which was initiated during the COVID-19 pandemic.

- Funding of RM120,000 was provided by the Ministry of Higher Education.

High Performance Computing Lab

2022 - Present University Sains Islam Malaysia
Project Manager for the design and deployment of an HPC server lab for the department. This lab provides GPU computing power for teaching and research in computer science, chemistry, and physics.

- Initial phase one funding of RM500,000 for the lab was approved by the department.

PUBLICATIONS

Geo-COVID: Movement Monitoring based on Geofence Framework for COVID-19 Pandemic Crisis

[Advances in Mathematics: Scientific Journal](#)

M. A. B. Sahbudin, S. Ali Pitchay, and M. Scarpa

2020 <http://dx.doi.org/10.37418/amsj.9.9.85>

Health Informatics Systems

Audio Fingerprint Based On Power Spectral Density And Hamming Distance Measure

[Journal of Advanced Research in Dynamical and Control Systems](#)

M. A. B. Sahbudin, C. Chaouch, M. Scarpa, and S. Serrano

2020 <http://dx.doi.org/10.5373/JARDCS/V12SP4/20201633>

Audio Signal Processing

Audio Fingerprint Database Structure Using K-modes Clustering

[Journal of Advanced Research in Dynamical and Control Systems](#)

C. Chaouch, M. A. B. Sahbudin, M. Scarpa, and S. Serrano

2020 <http://dx.doi.org/10.5373/JARDCS/V12SP4/20201634>

Audio Signal Processing

A Web Client Secure Storage Approach in Multi-Cloud Environment

[4th International Conference on Computing, Communications and Security\(ICCCS\), IEEE](#)

M. A. B. Sahbudin, R. Di Pietro, and M. Scarpa

2019 <http://dx.doi.org/10.1109/CCCS.2019.8888062>

IoT Based Song Recognition For FM Radio Station Broadcasting

[7th International Conference on Information and Communication Technology\(IColCT\), IEEE](#)

M. A. B. Sahbudin, M. Scarpa, and S. Serrano

2019 <http://dx.doi.org/10.1109/IColCT.2019.8835190>

Music Recognition

MongoDB Clustering Using K-means For Real-time Song Recognition

[International Conference on Computing, Networking and Communications\(ICNC\), IEEE](#)

M. A. B. Sahbudin, M. Scarpa, and S. Serrano

2019 <http://dx.doi.org/10.1109/ICNC.2019.8685489>

Music Recognition

PROJECTS

Music Recognition

2017 - 2021

Università degli Studi di Messina, Italy

This project was the highlight of my academic career. I spent three years in beautiful Sicily exploring new and more effective algorithms for digital and analog music recognition.

- This project was a successful collaboration between the EU research program and EarOne, a company that provided music recognition services throughout Europe.

Multi-Cloud Storage

2017 - 2021

Università degli Studi di Messina, Italy

This research project involves web client application for secure data storage in a multi-cloud environment, focusing on confidentiality and integrity. I present my web application framework, its implementation, and evaluate it through experiments in a real multi-cloud scenario."

Geo-location Encryption

2021 University Sains Islam Malaysia

In this research project the main objectives are to develop a method for generating AES keys and to validate the system based on user location for encrypting and decrypting data. This study utilizes a Raspberry Pi 4 with the NEO GPS Module board (Pi-GPS).

Optical Tweezers for Space

2021

Università degli Studi di Messina, Italy & Universidad de Cantabria, Spain

This project uses optical trapping techniques in planetary exploration. Assistant developer and programmer to researcher Dr. Abir, utilizing FORTRAN for computational simulations of space dust.

Autobavaria BMW Kuala Lumpur

Date period Location

IT Project Manager responsible for designing and deploying new IT infrastructure for the newly opened BMW & MINI dealership in Kuala Lumpur. This project includes servers, network systems, IT equipment, vehicle diagnostic tools, and smart information systems