

Mokhamad Arfan Wicaksono

AI/ML Specialist & IoT Researcher

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PROFESSIONAL SUMMARY

Researcher and educator specializing in IoT, AI, and Data Science. I lecture, train, and consult across IT domains, with published work in IoT systems and multimedia communications. My focus: applying technology to solve real-world problems.

PROFESSIONAL EXPERIENCE

AI/ML Specialist & Trainer

Jul 2025 - Present

Urbansolv, Indonesia

Leading AI and Machine Learning initiatives, providing training and consultation on ML implementation for various projects.

- Machine Learning Trainer for Kementrian PU programs
- Developing AI/ML solutions for urban development projects

Head of Department of Software Engineering Technology

Oct 2024 - Present

Akademi Digital Bandung, Bandung, Indonesia

Leading the Software Engineering Technology department, developing curriculum and training programs for digital skills education.

- Leading software engineering education initiatives
- Organizing workshops on Competitive Programming and AI
- Community engagement through BOOST YOUR BUSINESS programs

Head of Knowledge and Expert

Nov 2023 - Present

Enclave Kolaborasi Global (EKG), PT, Indonesia

Managing knowledge initiatives and providing expert consultation on data analytics and AI projects.

- Developed AI-based Proposal Checker Platform for BI Digital Competition
- Conducted Data Analytics workshops for government and corporate clients

Academic Assistant

Aug 2023 - Dec 2024

KKTI STEI ITB, Bandung, Indonesia

Assisting in academic activities and research support at the School of Electrical Engineering and Informatics.

- Supporting academic programs and student activities
- Contributing to research projects

Researcher

Apr 2019 - Dec 2024

DSP-MC Laboratory ITB, Bandung, Indonesia

Conducting research on Wireless Sensor Networks, Multimedia IoT, and Machine Learning applications.

- Published multiple papers on IoT and Multimedia communications
- Led research on CoAP communication methods for IoT
- Developed ML-based video delivery optimization systems

Research and Development Intern

May 2017 - Aug 2017

PT Indo Cisc Network Security Consultant, Indonesia

Internship focused on network security research and development projects.

- Conducted research on network security solutions
- Contributed to R&D initiatives

EDUCATION

Master of Science in Informatics

Aug 2019 - Dec 2021

Bandung Institute of Technology, Bandung, Indonesia

GPA: 3.51/4

- Research focus on Wireless Sensor Networks and IoT
- Published multiple research papers on Multimedia IoT
- PPMI Research Grant recipient

Bachelor of Science in Information System and Technology

Aug 2014 - Jul 2019

Bandung Institute of Technology, Bandung, Indonesia

GPA: 3.72/4

- Final Project: Development of Cat Care System Based on Internet of Things
- Silver Prize at d-Camp 2018 Engineering Solution Contest
- Active in organizational and committee activities

High School Diploma in Natural Science Major

Jul 2011 - Jun 2014

SMA Negeri 15 Bandung, Bandung, Indonesia

GPA: 50.7/60

Junior High School Diploma in General Education

Jul 2008 - Jun 2011

SMP Negeri 2 Bandung, Bandung, Indonesia

GPA: 35.95/40

TECHNICAL SKILLS

AI & Machine Learning: Machine Learning, Deep Learning, Computer Vision, CNN, TensorFlow, Data Science

Internet of Things: IoT Systems, RFID Technology, Wireless Sensor Networks, CoAP Protocol, Embedded Systems, Arduino/ESP32

Programming & Development: Python, Java, JavaScript, SQL, Web Development, API Development

Research & Analysis: Academic Research, Data Analytics, Technical Writing, System Design, Enterprise Architecture, Project Management

RESEARCH PROJECTS

Sistem Absensi Kampus Terintegrasi Berbasis AIoT dengan Pendekatan QoE dan Akuntabilitas Menggunakan RFID dan Computer Vision

Penelitian Dosen Pemula Kemdiktisaintek | 2025 | Ongoing

Integrasi Agentic AI dalam Pembelajaran Adaptif untuk Meningkatkan Kompetensi Bisnis Digital Mahasiswa

Penelitian Dosen Pemula Kemdiktisaintek | 2025 | Ongoing

Peningkatan Kinerja Pengiriman Multimedia pada Internet of Things Berbasis Jaringan Sensor Nirkabel

Penelitian Kompetitif Nasional | 2023 | Completed

Pengembangan Sistem Pengiriman Data Berbasis Machine Learning untuk Peningkatan QoE pada Multimedia Internet of Things

Riset dan Inovasi untuk Indonesia Maju | 2023 | Completed

Sistem Pengelolaan WSN pada Multimedia IoT untuk Peningkatan Quality of Service

PPMI | 2021 | Completed

Software-Defined Network pada Jaringan Sensor Nirkabel untuk Sistem Multimedia-Internet of Things (M-IoT)

Riset ITB | 2021 | Completed

Pengembangan Platform Perawatan Tanaman Hidroponik dengan Analisis Citra Digital Berbasis Algoritma CNN dan IoT

Penelitian Terapan Unggulan Perguruan Tinggi | 2020 | Completed

PUBLICATIONS

"The New Educational Frontier: Agentic AI's Evolutionary Journey Through The Lens of SPAR-4-SLR"

VOCATECH: Vocational Education and Technology Journal, Dec 2025

"Performance Evaluation of CoAP Communication Method Extensions in Internet of Video Things"

Journal of Advances in Information Technology, Jul 2025

"Music Genre Classification Using Convolutional Neural Network Method"

2024 International Conference on Information Technology Systems and Innovation (ICITSI), Mar 2025

"Arsitektur Software-Defined Wireless Multimedia Sensor Network (SDWSN) Berbasis CoAP untuk Optimasi Komunikasi dan Manajemen Jaringan"

DISTech: Digital Innovation and Sustainable Technology Journal, Jan 2025

"IoT Video Delivery Optimization Through Machine Learning-Based Frame Resolution Adjustment"

ACM Transactions on Multimedia Computing, Communications, and Applications, May 2024

"Combining inception-V3 and support vector machine for garbage classification"

Jurnal Infotel, Nov 2023

"Recyclable Waste Classification using SqueezeNet and XGBoost"

(IJACSA) International Journal of Advanced Computer Science and Applications, Jan 2023

"CoAP Evaluation for Node-Edge Communication on Wireless Multimedia Sensor Network"

2021 International Conference on Sustainable Engineering and Creative Computing, Dec 2021

"Development of Cat Care System Based on Internet of Things"

2019 International Conference on Electrical Engineering and Informatics, ICEEI, Feb 2020

INTELLECTUAL PROPERTY

HydroponicSense - Computer Program Copyright, Indonesia Ministry of Law (Dec 2020)

Cat Care - Computer Program Copyright, Indonesia Ministry of Law (Mar 2019)

PROJECTS

RFID-based Student Attendance Platform

IoT-based campus attendance system using RFID and Computer Vision with QoE and accountability approach.

Technologies: IoT, RFID, Computer Vision, Python, Machine Learning

AI-based Proposal Checker Platform

AI platform for checking and evaluating proposals for BI Digital Competition.

Technologies: AI, NLP, Python, Machine Learning

IoT Video Delivery Optimization

ML-based frame resolution adjustment system for optimizing video delivery in IoT networks.

Technologies: Machine Learning, IoT, Video Processing, Python, CoAP

Cat Care System (IoT)

Internet of Things-based cat care system for automated pet monitoring and feeding.

Technologies: IoT, Arduino, Sensors, Mobile App, Cloud

HydroponicSense Platform

Hydroponic plant care platform using CNN and IoT for digital image analysis.

Technologies: CNN, IoT, Python, Image Processing, Deep Learning

Garbage Classification System

Recyclable waste classification using Inception-V3, SqueezeNet, SVM, and XGBoost.

Technologies: Deep Learning, CNN, SVM, XGBoost, Python

Music Genre Classification

CNN-based music genre classification system presented at ICITSI 2024.

Technologies: CNN, Audio Processing, Deep Learning, Python

SDWSN Architecture for M-IoT

Software-Defined Wireless Multimedia Sensor Network architecture using CoAP protocol.

Technologies: SDN, WSN, CoAP, IoT, Network Architecture

AWARDS & ACHIEVEMENTS

2nd Winner of Business IT-Case Competition

Techphoria Event | Universitas Sriwijaya | National | Oct 2017

Silver Prize - Engineering Solution Contest

d-Camp 2018 | Innovation Hub Center for Engineering Education (IHCEE) Chonbuk National University | International | Aug 2018

Participant Prize - i-CAPS 2018

International Students Joint Capstone Design Project Competition | Innovation Hub Center for Engineering Education (IHCEE) Chonbuk National University | International | Aug 2018

ORGANIZATIONS

Head of Human Resource Management

Lingkung Seni Sunda (LSS) ITB | Sep 2016 - Sep 2017

Vice Head of Intra-Campus Division

Himpunan Mahasiswa Informatika (HMIF) ITB | Feb 2015 - Jan 2016

COMMITTEE EXPERIENCE

Head of Logistics Division - Arkavidia Informatics and IT Festival

HMIF ITB | 2016

Chairman - HMIF July Graduation 2016

HMIF ITB | 2016

General Secretary - New LSS ITB Member Recruitment 2015

LSS ITB | 2015

TRAINING & SPEAKING ENGAGEMENTS

IoT Instructor

Samsung Innovation Campus x dibimbing.id

Oct 2025

IoT Mentor

Samsung Innovation Campus x dibimbing.id

Sep 2025

Speaker at Workshop AI & Data Science

Pengmas Akademi Digital Bandung

Aug 2025

Speaker at AI and IoT Webinar

Samsung Innovation Campus x dibimbing.id

Aug 2025

Machine Learning Trainer

Kementrian PU x UrbanSolv

Jul 2025

IoT Workshop Trainer

Kementrian Ketenagakerjaan x dibimbing.id

Jun 2025

Private IoT and Data Science Teacher

UNSI A Student

May 2025

Competitive Programming Workshop Trainer

Akademi Digital Bandung

Mar 2025

Basic Programming Workshop Trainer

Personal Charity Project

Mar 2025

Speaker at BOOST YOUR BUSINESS: AI UNTUK UMKM NAIK KELAS

Pengmas Akademi Digital Bandung

Dec 2024

Conference Moderator

International Conference on ICT for Smart Society by ITB

Sep 2024

Data Analytics Workshop Trainer

PT Cerebrum Edukanesia Nusantara

Jun 2024

Data Analytics Workshop Trainer

Jasa Raharja BOD Candidate by Linxbrain

Mar 2024

Data Analytics Workshop Trainer

Diskominfo Employee by Enclave Kolaborasi Global

Dec 2023

Data Analytics Workshop Trainer

FEUNM

Sep 2023

Data Analytics Workshop Trainer Diskominfo Employee	Aug 2023
Webinar Speaker in AI Topic UNIBI	Jul 2023
IoT Trainer SMKN 2 Sukoharjo	Feb 2023
Back Office Trainer Daarut Tauhid Boarding School for Female	Jan 2023
Data Science Trainer HMP PL ITB Komisariat 2022/2023	Aug 2022
Excel Trainer Daarut Tauhid Boarding School Civitas Upgrading	Nov 2020
IoT Facilitator Digital Talent Program by Kominfo at ITB	Sep 2019
IoT Facilitator Digital Talent Program by Kominfo at ITB	Jul 2019