

# Mokhamad Arfan Wicaksono

## AI/ML & IoT Trainer & 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
- 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

## CERTIFICATIONS

### IELTS Band 7

*British Council | Feb 2025 - Feb 2027*

Credential ID: 24ID516923WICM195A

### Sertifikat EF SET Bahasa Inggris 81/100 (C2 Mahir)

*EF SET | Jan 2025*

## TECHNICAL SKILLS

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

**Internet of Things:** IoT System Architecture, RFID Technology, Wireless Sensor Networks, Embedded Systems

**Programming & Development:** Python, Web Development, Database Management

**Research & Education:** Academic Research, Teaching & Training, 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.

*Technologies: AI, NLP, Python, Machine Learning*

### **Cat Care System Based on Internet of Things**

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

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

### **Enterprise Architect for Radio-B**

Designing an Enterprise Architect for Radio-B.

*Technologies: Enterprise Architecture, Business Process, System Design*

### **Integrated Health Information System**

Designing integrated health information system for healthcare facilities.

*Technologies: System Design, Healthcare IT, Database Design, Multimedia*

### **Web Information System for Siete Cafe**

Designing web-based information system for Siete Cafe.

*Technologies: Web Design, Requirement Analysis, System Design, Database*

**Online Delivery System for Mulya Cirebon Chinese Food**

Designing online delivery system for Chinese food restaurant.

*Technologies: System Design, Service Design, Database, Web*

**Web-Based Hotel Reservation and Service System**

Develop web-based hotel reservation and service management system.

*Technologies: Web Development, PHP, MySQL, Software Engineering*

**Student Monitoring System for Salman Al-Farisi Primary School**

Designing student monitoring and management system for primary school.

*Technologies: System Design, Requirement Analysis, Database Design*

**Online Booking System for Futsal Field Reservation**

Planning online booking system project for futsal field reservation.

*Technologies: Project Management, System Planning, Scheduling*

**Harvest Moon Game Replica with Java**

Develop replica of Harvest Moon game using Java programming.

*Technologies: Java, OOP, Game Development*

**Flight Database Management System**

Designing flight database management system for airline operations.

*Technologies: Database Design, SQL, Data Modeling, ERD*

**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

<b>Private IoT and Data Science Teacher</b> UNSID Student	May 2025
<b>Competitive Programming Workshop Trainer</b> Akademi Digital Bandung	Mar 2025
<b>Basic Programming Workshop Trainer</b> Personal Charity Project	Mar 2025
<b>Speaker at BOOST YOUR BUSINESS: AI UNTUK UMKM NAIK KELAS</b> Pengmas Akademi Digital Bandung	Dec 2024
<b>Conference Moderator</b> International Conference on ICT for Smart Society by ITB	Sep 2024
<b>Data Analytics Workshop Trainer</b> PT Cerebrum Eduknesia Nusantara	Jun 2024
<b>Data Analytics Workshop Trainer</b> Jasa Raharja BOD Candidate by Linxbrain	Mar 2024
<b>Data Analytics Workshop Trainer</b> Diskominfo Employee by Enclave Kolaborasi Global	Dec 2023
<b>Data Analytics Workshop Trainer</b> FEUNM	Sep 2023
<b>Data Analytics Workshop Trainer</b> Diskominfo Employee	Aug 2023
<b>Webinar Speaker in AI Topic</b> UNIBI	Jul 2023
<b>IoT Trainer</b> SMKN 2 Sukoharjo	Feb 2023
<b>Back Office Trainer</b> Daarut Tauhid Boarding School for Female	Jan 2023
<b>Data Science Trainer</b> HMP PL ITB Komisariat 2022/2023	Aug 2022
<b>Excel Trainer</b> Daarut Tauhid Boarding School Civitas Upgrading	Nov 2020
<b>IoT Facilitator</b> Digital Talent Program by Kominfo at ITB	Sep 2019
<b>IoT Facilitator</b> Digital Talent Program by Kominfo at ITB	Jul 2019
<b>FGD Speaker: Fundamental AI and IoT</b> Politeknik Negeri Cilacap	Oct 2025