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EDUCATION

Kumoh National Institute of Technology

Gumi, KR

Ph.D., IT Convergence Engineering

September 2020 to August 2023

- Scholarships: Network Systems Lab Research Scholar, KIT Type B Scholar
- Fields: Robotics, Embedded Systems, Automation Engineering
- Dissertation: 3D-AmplifAI: An Ensemble Machine Learning Approach to Digital Twin Fault Monitoring for Additive Manufacturing in Smart Factories

Mapúa University

Manila, PH

B.S.-M.S., Computer Engineering

June 2013 to December 2018

- BS-MS Double-Degree Program Student
- Scholarships: Academic Scholar
- Fields: Robotics, Embedded Systems, Automation Engineering
- Dissertation: Real-Time Plasmodium Falciparum Parasitemia using Natural Neighbor Interpolation

INDUSTRY EXPERIENCE

Philippine Coding Camp, Inc.

Makati City, PH

Founder / CEO

May 2020 to present

- Established the training institute in 2020
- Manages a team of instructors and support personnel in the day-to-day operations of the company
- Forges partnerships and contracts projects with various companies and government agencies
- Applies software development methodologies such as Scrum for developing both software and hardware development

GS Solutions OPC

Manila, PH

Founder / General Manager

October 2019 to present

- Established the recruitment and staffing solutions firm in 2019
- Forges partnerships with local and international clients for both RPO (Recruitment Process Outsourcing) and offshore operations
- Manages a team of remote contractors for projects with a company engaged in the development of sample conversations for the AI of its robot
- Managed a team of engineers for hardware and software development projects with methodologies aligned with Scrum.

Kumoh National Institute of Technology

Gumi, KR

Doctoral Researcher / Project Leader

August 2020 to August 2023

- Leads the research team for the development of a 3D printer monitoring system
- Promote partnerships and collaboration between Korea and the Philippines

MachiBox Inc.

Manila, PH

Co-Founder

April 2016 to September 2020

- Established the company in 2016 as one of its key-members
- Acquired funding from an angel investor; and the government through the Department of Science and Technology - Innovation Council. Received a \$50,000 research grant for both product development and product testing

Operations and Finance Director / Executive Director (Interim)

- Managed the overall operations and finances of the company
- Negotiated and collaborated with different private and public agencies for market testing of the product

- Coordinated with investors and partner government agencies for product development and deployment
- Managed a team of engineers for hardware and software development projects with methodologies aligned with Scrum.

Curriculum Developer

- Developed the curricula to be used by educational partners in the implementation of the product in a classroom setup

WingTel Inc.

NY, USA

Operations Manager (PH)

February 2019 to October 2019

- Established the operational expansion of the company to the Philippines
- Managed, recruited, and trained remote contractors for back-end operations
- Developed management plans with the company owners concerning organizational-level team management

ACADEME EXPERIENCE

University of the Philippines - Open University

Los Baños, PH

Assistant Professor 2

December 2022 to present

- Taught and trained both undergraduate and graduate students on the principles and concepts of programming and software development
- Performs research in areas related to real-time systems, embedded systems, and the Internet of Things
- Chairs the microcredentialing initiative of the Faculty of Information and Communication Studies
- Chairs the development of a technology business incubator in the university

De La Salle University

Manila City, PH

Lecturer

September 2022 to December 2022

- Taught and trained undergraduate students on the principles and concepts of programming and advanced mathematics
- Performs research in areas related to real-time systems, embedded systems, and the Internet of Things

National University - Manila

Manila City, PH

Assistant Professor 3 / University Research Faculty

August 2021 to November 2022

- Taught and trained both undergraduate and graduate students on the principles and concepts of programming and advanced mathematics
- Served as an adviser for undergraduate researchers and student organizations
- Planned, developed, and prepared instructional materials
- Performs research in areas related to real-time systems, embedded systems, and the Internet of Things

Technological University of the Philippines

Quezon City, PH

Assistant Professor

September 2020 to August 2022

- Taught and trained students on the principles and concepts of Data Structures and Algorithms, Programming Languages, C/C++/C# Programming, and Information Management
- Provided students with theoretical knowledge and applications during laboratory classes
- Planned, developed, and prepared instructional materials

Technological Institute of the Philippines

Quezon City, PH

Assistant Professor

May 2019 to August 2021

- Taught students the principles and concepts of Data Structures and Algorithms, Differential Equations, C/C++/C# Programming, Systems Analysis and Design, and Embedded Systems
- Mentored students in the development of their design projects and thesis work
- Provided students with theoretical knowledge and applications during laboratory classes
- Planned, developed, and prepared instructional materials

OTHER PROFESSIONAL ENGAGEMENTS

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| ● Co-Chairperson
International Symposium on Education and AI Convergence | 2023 |
| ● Technical Panel Committee Member
Asia-Pacific Conference on Communication (APCC) | 2023 |
| ● Paper Reviewer
Remote Sensing Applications: Society and Environment (Q1) | 2023 |
| ● Paper Reviewer
International Journal of Cognitive Computing in Engineering (Q1) | 2023 |
| ● Mentor / Consultant
Tinker and Thinker Laboratories (Mapua University) | 2022 |

TRAINING RECEIVED

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| ● Data Analytics Fellowship Program
OCDex | 2022 |
| ● Canvas LMS Training
Technological Institute of the Philippines | 2020 |
| ● Data Science Explorer
ASEAN Foundation / SAP Southeast Asia | 2019 |
| ● Lean Six Sigma Green Belt Workshop
AskLex PH Academy | 2019 |
| ● Human-Centered Design Thinking
Technological Institute of the Philippines | 2019 |

MEMBERSHIPS, AFFILIATIONS, AND CERTIFICATIONS

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- Institute of Electrical and Electronics Engineers (IEEE)
Professional Member
 - Association for Computing Machinery (ACM)
Professional Member
 - Korean Institute of Communications and Information Sciences (KICS)
Graduate Student Member
 - Philippine Computer Society (PCS)
Member
 - National Research Council of the Philippines (NRCP)
Associate Member
 - Institute of Computer Engineers of the Philippines
Member / Computer Engineer (pending certification)
 - Council for Six Sigma Certifications
Yellow Belt Certified / Green Belt Trained (pending project)

SEMINARS AND TRAINING CONDUCTED

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|---|------|
| ● Internet of Things-based Smart Factory Development 101
Toyota Motors Philippines | 2022 |
| ● Data Science
CIIT College of Arts and Technology | 2022 |
| ● Human-Centered Design Thinking
DOST - FNRI / National University | 2021 |
| ● Effective Coding Practices
National University | 2021 |
| ● Design Thinking
Ateneo de Manila University | 2019 |
| ● Project Ideation and Technopreneurship
LORMA Colleges | 2019 |

SKILLS AND RESEARCH INTERESTS

- Programming Languages: C, C++, C#, Java, Python, Assembly, Javascript
- Research Interests: Process Automation, Robotics, Software Engineering, Embedded Systems, Machine Learning, Real-Time Systems

SELECT JOURNAL PUBLICATIONS

- Privacy Preserved and Decentralized Smartphone Recommendation System 2023
IEEE Transactions in Consumer Electronics (Q1)
- Aspect Category Detection of Mobile Edge Customer Reviews: 2023
A Distributed and Trustworthy Restaurant Recommendation System
IEEE Transactions in Consumer Electronics (Q1)
- Efficient Feature-Selection-Based Stacking Model for Stress Detection Based 2023
on Chest Electrodermal Activity
Sensors (Q1)
- Towards Accurate Fused Deposition Modeling 3D Printer Fault Detection 2023
using Improved YOLOv8 with Hyperparameter Optimization
IEEE Access (Q1)
- 3D-AmplifAI: An Ensemble Machine Learning Approach to Digital Twin 2023
Fault Monitoring for Additive Manufacturing in Smart Factories
IEEE Access (Q1)
- HFTL: Hierarchical Federated Transfer Learning for Secure and Efficient Fault 2023
Classification in Additive Manufacturing
IEEE Access (Q1)
- Exploring Machine Learning-Based Fault Monitoring for Polymer-Based 2022
Additive Manufacturing: Challenges and Opportunities
Sensors (Q1)

SCHOLARLY PRODUCTIVITY METRICS

- Q1 Journal Articles: 22
- Q2 Journal Articles: 8
- A* Conference Papers: 1
- Scopus-Indexed Conference Papers: 63
- Non-Scopus Conference Papers: 6
- Total Publications: 69
- Total Citations: 150
- H-Index: 6
- i10-Index: 4

FUNDED PROJECTS

- Inventory Management System 2023
Department of Labor and Employment - Occupational Safety and Health Center
- Selective Laser Melting (SLM) Process Analysis through Long Short-Term Memory Networks 2022
Center for Research, National University - Manila
- 3D Printer Monitor 2022
Networked Systems Laboratory
- PLDT SmartPlanet Bin 2021
PLDT Innolab
- Enhancement of Prototype and Assessment of Product Marketability of MachiBox 2019
DOST-Innovation Council