Mohamad Yani,Ph.D

Software Engineer in Robotics, Researcher and Lecturer

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Summary

I am currently a lecturer at Telkom University in Surabaya, Indonesia, within the Department of Computer Engineering, Faculty of Electronics Engineering. I hold a Ph.D. from Tokyo Metropolitan University in Mechanical Systems Engineering, where I gained extensive experience as a research assistant. My research focus spans a variety of robotics fields, including human-robot interaction, robotic manipulation, autonomous navigation, aerial robotics and rehabilitation robotics.

During my time in Japan, I actively collaborated with leading universities and research institutes as part of the prestigious Moonshot Project under JST (Japan Science and Technology Agency). These projects enhanced my skills in both software and hardware development for robotics applications, involving cutting-edge technologies in AI, machine learning, and robotics systems integration.

With a strong foundation in software development, algorithm design, and robotics research, I am seeking a challenging role as a Postdoctoral Researcher.

Education

- BASc in Mechatronics Engineering, 2013
  Politeknik Elektronika Negeri Surabaya (PENS), Indonesia
- M.Phil in Control Systems Engineering, 2017
  Universiti Teknologi Malaysia, Malaysia
- Research Student in Mechanical Systems Engineering, at the Kubota Naoyuki Lab, 2024
  Tokyo Metropolitan University, Japan
- PhD in Mechanical Systems Engineering, at the Kubota Naoyuki Lab, 2024
  Tokyo Metropolitan University, Japan

Skills

- ROS(Robot Operating System)
- Machine Learning
- C/C++ and Python
- Computer Vision
- Control Systems and Theory
- IoT Systems Integration
- Matlab

Employment History

- Researcher and consultant for development of portable ECG at Tetra Solusi Perdana Co.Ltd, 2024-2025
- Lecturer 2018-2025 in Department of Computer Engineering, Telkom University, Surabaya Campus, Indonesia
- Research Assistant 2023-2024, Tokyo Metropolitan University
- Steering Committee Member of Toyota HSR Research Group, Representative of Tokyo Metropolitan University 2022-2024
- Firmware Design Engineer at Indonesia Epson Industry 2014

Awards

- **Japan ASEAN-Integration Fund (JAIF) Scholarship Awardee 2014**, **Master of Philosophy in Electronics Systems Engineering Program** at Universiti Teknologi Malaysia - Malaysia Japan International Institute of Technology.
- **The Ministry of Education, Culture, Sports, Science, and Technology of Japan (MEXT) Scholarship Awardee 2018, Non-degree Research Student** Program at Tokyo Metropolitan University (東京都立大学)
- **The Ministry of Education, Culture, Sports, Science, and Technology of Japan (MEXT) Scholarship Awardee 2020, PhD Program** at Tokyo Metropolitan University (東京都立大学)

Teaching

Robotics (2023/2024 Even semester)
I taught electronics and computer engineering class focused on basic robotics, such as kinematics, dynamics, navigation and probabilistic

Systems Analysis and Design (2024/2025 Odd semester)
The class focused on modelling the systems and applied aspects of analysis to create systems that meet user demands

Artificial Intelligence (2024/2025 Odd semester)
I taught computer engineering class focused on basic introduction of AI and basic AI and Basic Machine learning.

RTOS (2024/2025 Odd semester)
I taught real time operating systems that using ESP32 module. the student learn how to manage the delay, queue, task-scheduling, and memory management.

Links

- Github : https://github.com/yani-rl-ai
- Google scholar : https://scholar.google.com/citations?user=zGrZthcAAAAJ&hl=en

Publications List

Journal Papers

[J1]**M. Yani**, F. Ardilla, A. R. A. Besari, A. A. Saputra, N. Kubota, and Z. H. Ismail, "Optimizing Quadrotor Stability: RBF Neural Network Control with Performance Bound for Center of Gravity Uncertainty," *JOIV: Int. J. on Informatics Visualization*, vol. 9, no. 3, pp.1235–1243, 2025.

[J2] **M. Yani**, A. Faricha, S. T. Rasmana, A. S. Akbar, K. Rizky, A. F. Putra, … and F. R. Hasintongan,"Robot Logistik Berbasis IoT untuk Pengiriman Obat dan Monitoring Pasien Secara Otomatis," *Jurnal Algoritma*, vol. 22, no. 1, pp. 789–800, 2025. (*Indonesian Journal*)

[J3]U. Umar, T. A. Sardjono, H. Kusuma, **M. Yani**, and H. Widyantara, "Optimizing YOLOv8 for Enhanced Melon Maturity Detection with Attention Mechanisms: A Case Study from Puspalebo Orchard," *JOIV: Int. J. on Informatics Visualization*, vol. 9, no. 3, pp. 947–956, 2025.

[J4]**M.Yani**, N. Yamada, C. Z. Siow, and N. Kubota, "An efficient activity recognition for homecare robots from multi-modal communication dataset," *Int. J. of Advances in Intelligent Informatics*, vol. 9, no. 1, pp. 39–50, 2023.

[J5]**M.Yani**, A. A. Saputra, W. H. Chin, and N. Kubota, "Investigation of obstacle prediction network for improving home-care robot navigation performance," *J. of Robotics and Mechatronics*, vol. 35, no. 2, pp. 510–520, 2023.

[J6]F. Ardilla, **M. Yani**, A. A. Saputra, W. Chin, and N. Kubota, "Topological mapping based on perceiving-acting cycle in sharing cognitive environments for robot partners,"*Communications in Information and Systems*, vol. 22, no. 4, pp. 431–458, 2022.

Conference Papers

[C1] A. A. Saputra, C. W. Hong, **M. Yani**, F. Ardilla, A. R. A. Besari, Y. Toda, and N. Kubota, "Topological based Environmental Reconstruction for Efficient Multi-Level Control of Robot Locomotion," in *Proc. Int. Electronics Symp. (IES)*, Aug. 2022, pp. 491–496. IEEE.

[C2]N. Yamada, **M. Yani**, and N. Kubota, "A Study of Human State Pattern Acquisition Method for Partner Robots," in *Proc. 32nd Int. Symp. on Micro-NanoMechatronics and Human Science (MHS)*, Dec. 2021, pp. 1–5. IEEE.

[C3] **M. Yani**, F. Ardilla, A. A. Saputra, and N. Kubota, "Gradient-Free Deep Q-Networks Reinforcement Learning: Benchmark and Evaluation," in *Proc. IEEE Symp. Series on Computational Intelligence (SSCI)*, Dec. 2021, pp. 1–5. IEEE.

[C4] N. Yamada, **M. Yani**, and N. Kubota, "Interactive adaptation of Hand-over Motion by a Robot Partner for Comfort of receiving," in *Proc. IEEE Symp. Series on Computational Intelligence (SSCI)*, Dec. 2020, pp. 1899–1904. IEEE.

[C5]**M. Yani**, A. R. A. Besari, N. Yamada, and N. Kubota, "Ecological-inspired system design for safety manipulation strategy in home-care robot," in *Proc. Int. Symp. on Community-centric Systems (CcS)*, Sep. 2020, pp. 1–6. IEEE.

[C6]N.Yamada, N. Kubota, and **M. Yani**, "人の受け取りやすさを考慮したロボットの手渡し動作—手渡し位置と角度の対話的調整—," in *Proc. ロボティクス・メカトロニクス講演会 (ROBOMECH)*, 2020, pp.1P1 – D05. The Japan Society of Mechanical Engineers.

[C7] M. B. Mokhar, Z. H. Ismail, **M. Yani**, and M. W. Dunnigan, "Attitude control with a region-based method for an unmanned aerial vehicle," in *Proc. 10th Asian Control Conf.* (ASCC), Sep. 2015, pp. 1–6. IEEE.