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Job

- Sep 2014 – now 📌 **Assistant Professor**, at Department of Electrical Engineering and Informatics, Vocational College, Universitas Gadjah Mada, Indonesia.
<https://otomasi.sv.ugm.ac.id/>
- Mar 2014 – Aug 2014 📌 **Testing IC Wafer Engineer**, at Ardentec Corporation, Taiwan.
<https://www.ardentec.com/>

Education

- January 2024 📌 **Dr., Universitas Gadjah Mada** in Control System and Robotics.
Thesis title: *Bicopter Unmanned Aerial Vehicles (UAV) Dynamic Attitude Control*.
<https://www.youtube.com/watch?v=r0h-Y5iN35g>
- Januari 2014 📌 **M.Sc., National Taiwan University of Science and Technology** in Control System and Robotics.
Thesis title: *Development of a Sensor-Based Biped Robot Locomotion Controller for Uneven*.
https://www.youtube.com/watch?v=RB_gQwXclWk
- Juli 2011 📌 **S.T., Institut Teknologi Sepuluh Nopember** in Control System and Robotics.
Thesis title: *Implementasi Sistem Navigasi Behavior Based dan Kontroler PID pada Manuver Robot Maze*.

Research Publications

Books

- 1 Fahmizal, A. Mayub, R. Agustiawan, and D. T. Utami, *Mudah Belajar Desain Gambar Teknik Mekanika dengan Autodesk Inventor Student Version*. Media Sains Indonesia, 2023.
- 2 Fahmizal, A. Mayub, M. Arrofiq, and F. Ruciyanti, *Mudah Belajar Arduino dengan Pendekatan berbasis Fritzing, Tinkercad dan Proteus*. Deepublish, 2022.
- 3 Fahmizal, A. Mayub, D. T. Utami, and Chairadeya, *Mudah Belajar Desain Printed Circuit Board (PCB) Perangkat Elektronika Menggunakan Autodesk EAGLE dan Fusion360 Student Version*. Deepublish, 2022.

Journal Articles

- 1 Fahmizal, D. Afidah, S. Istiqphara, and N. S. Abu, "Interface design of dji tello quadcopter flight control," *Journal of Fuzzy Systems and Control*, vol. 1, no. 2, pp. 49–54, 2023.
- 2 Fahmizal, Geonoky, and H. Maghfiroh, "Rotary inverted pendulum control with pole placement," *Journal of Fuzzy Systems and Control*, vol. 1, no. 3, pp. 90–96, 2023.
- 3 Fahmizal, D. Y. Kharisma, and S. Pramono, "Implementation of fuzzy logic control on a tower copter," *Journal of Fuzzy Systems and Control*, vol. 1, no. 1, pp. 14–17, 2023.
- 4 Fahmizal, H. A. Nugroho, A. I. Cahyadi, and I. Ardiyanto, "Attitude control and low cost design of uav bicopter," *arXiv preprint arXiv:2309.08209*, 2023.

- 5 ———, “Trajectory tracking control of uav bicopter using linear quadratic gaussian,” *arXiv preprint arXiv:2309.08226*, 2023.
- 6 N. H. A. Fahmizal, C. A. Imam, and A. Igi, “Fuzzy logic controller for stabilizing the rolling movement of uav bicopter,” vol. 17, no. 09, p. 967, 2023.
- 7 Fahmizal, J. T. Putra, S. Fatimawardhani, and H. Maghfiroh, “Hydraulic power system control using state feedback controller (sfc),” *Journal of Fuzzy Systems and Control*, vol. 1, no. 1, pp. 28–31, 2023.
- 8 S. Istiqphara, A. U. Darajat, Fahmizal, and M. F. Ferdous, “Movement control of three omni-wheels robot using pole placement state feedback and pid control,” *Journal of Fuzzy Systems and Control*, vol. 1, no. 2, pp. 44–48, 2023.
- 9 H. Maghfiroh, J. S. Saputro, Fahmizal, and M. A. Baballe, “Adaptive fuzzy-pi for induction motor speed control,” *Journal of Fuzzy Systems and Control*, vol. 1, no. 1, pp. 1–5, 2023.
- 10 Fahmizal, A. Priyatmoko, and A. Mayub, “Implementasi kinematika trajectory lingkaran pada robot roda mecanum,” *Jurnal Listrik, Instrumentasi, dan Elektronika Terapan (JuLIET)*, vol. 3, no. 1, 2022.
- 11 M. Arrofiq, L. S. Nugroho, Fahmizal, and E. Apriaskar, “Sistem kendali eddy current brakes dinamometer menggunakan linear quadratic regulator (lqr),” *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, vol. 9, no. 4, p. 923, 2021.
- 12 N. Sulistyawati, Fahmizal, and I. Nathasya, “Kendali kecepatan motor dc dengan buck converter menggunakan full state feedback-pole placement,” *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, vol. 9, no. 2, p. 415, 2021.
- 13 E. Apriaskar, Fahmizal, I. Cahyani, and A. Mayub, “Autonomous mobile robot based on behaviour based robotic using v-rep simulator–pioneer 3-dx robot,” *Jurnal Rekayasa Elektrika*, vol. 16, no. 1, 2020.
- 14 F. Hasan, B. B. Murti, Fahmizal, and M. Arrofiq, “Kendali heading pada trajectory tracking miniatur robot mobil,” *Jurnal Listrik, Instrumentasi dan Elektronika Terapan (JuLIET)*, vol. 1, no. 2, 2020.
- 15 L. K. N. Imani, N. Alicia, Fahmizal, and U. Y. Oktiawati, “Implementasi sistem pengendali rumah pintar menggunakan laravel,” *Jurnal Listrik, Instrumentasi, dan Elektronika Terapan*, vol. 1, no. 1, 2020.
- 16 A. Mayub, I. Syahroni, Fahmizal, and M. Arrofiq, “Kinematika dan antarmuka robot scara serpent,” *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, vol. 8, no. 3, p. 561, 2020.
- 17 B. B. Murti, T. Sarwono, E. Apriaskar, and Fahmizal, “Desain robot holonomic berbasis roda mecanum dengan arm manipulator,” *Jurnal Rekayasa Elektrika*, vol. 16, no. 3, 2020.
- 18 E. Apriaskar, Fahmizal, N. A. Salim, and D. Prastiyanto, “Performance evaluation of balancing bicopter using p, pi, and pid controller,” *Jurnal Teknik Elektro*, vol. 11, no. 2, pp. 44–49, 2019.
- 19 Fahmizal, M. Arrofiq, R. Adrian, and A. Mayub, “Robot inverted pendulum beroda dua (ipbd) dengan kendali linear quadratic regulator (lqr),” *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, vol. 7, no. 2, p. 224, 2019.
- 20 Fahmizal, T. R. Orlando, B. B. Murti, M. Budiyanto, and A. Mayub, “Kendali logika fuzzy pada sistem electronic control unit (ecu) air conditioner mobil,” *J. Teknol. Inf. dan Ilmu Komput*, vol. 6, no. 1, p. 25, 2019.
- 21 Fahmizal, D. U. Rijalussalam, M. Budiyanto, and A. Mayub, “Trajectory tracking pada robot omni dengan metode odometry,” *Jurnal Nasional Teknik Elektro dan Teknologi Informasi*, vol. 8, no. 1, pp. 35–44, 2019.
- 22 A. Mayub, Fahmizal, M. Shidiq, U. Y. Oktiawati, and N. R. Rosyid, “Implementation smart home using internet of things,” *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, vol. 17, no. 6, pp. 3126–3136, 2019.

- 23 R. Adrian, Fahmizal, and N. R. Rosyid, "Peningkatan kualitas jaringan pada vehicle ad-hoc network menggunakan algoritma simple k-means," *Techno. Com*, vol. 17, no. 3, pp. 281–289, 2018.
- 24 Fahmizal, M. Arrofiq, and A. Mayub, "Identifikasi pemodelan matematis robot wall following," *Jurnal Nasional Teknik Elektro dan Teknologi Informasi*, vol. 7, no. 1, pp. 79–88, 2018.
- 25 Fahmizal, M. Arrofiq, A. Mayub, *et al.*, "Sistem gerak robot mainland surveillance menggunakan mecamum wheel sebagai militer robot," *Majalah Ilmiah Teknologi Elektro*, vol. 17, no. 2, 2018.
- 26 Fahmizal, G. Y. Dewantama, D. B. Pratama, F. Fathuddin, and Winarsih, "Rancang bangun sistem penstabil kamera (gimbal) dengan logika fuzzy untuk pengambilan gambar foto dan video," *Jurnal Teknologi Informasi dan Ilmu Komputer*, vol. 5, no. 3, pp. 277–286, 2018.
- 27 Fahmizal, F. Fathuddin, and R. Susanto, "Identifikasi sistem motor dc dan kendali linear quadratic regulator berbasis arduino-simulink matlab," *Majalah Ilmiah Teknologi Elektro*, vol. 12, p. 13, 2018.
- 28 Fahmizal, B. B. Murti, D. B. Pratama, and A. Mayub, "Kendali logika fuzzy pada car like mobile robot (clmr) penjejak garis," *ELKOMIKA: Jurnal Teknik Energi Elektrik, Teknik Telekomunikasi, & Teknik Elektronika*, vol. 6, no. 3, p. 451, 2018.
- 29 Fahmizal, D. B. Pratama, A. Priyatmoko, and M. R. F. Rahman, "Otomatisasi proses produksi cat berbasis simulator plc twido twdlmdazodtk," *JST (Jurnal Sains Dan Teknologi)*, vol. 7, no. 1, pp. 49–58, 2018.
- 30 A. Mayub and Fahmizal, "Center of pressure feedback for controlling the walking stability bipedal robots using fuzzy logic controller.," *International Journal of Electrical & Computer Engineering* (2088-8708), vol. 8, no. 5, 2018.
- 31 A. Surriani, M. Arrofiq, and Fahmizal, "Pemodelan forward kinematic dan inverse kinematic robot berengan puma 560," *Jurnal Ilmiah Teknik Elektro Komputer dan Informatika (JITEKI)*, vol. 4, no. 2, 2018.
- 32 Fahmizal, G. Setyawan, M. Arrofiq, and A. Mayub, "Logika fuzzy pada robot inverted pendulum beroda dua," *J. Teknol. Inf. Dan Ilmu Komput*, vol. 4, no. 4, p. 244, 2017.
- 33 C. H. Kuo, Fahmizal, and S. L. Wu, "Development of fuzzy logic controllers for controlling bipedal robot locomotion on uneven terrains with imu feedbacks," *Indian Journal of Science and Technology*, vol. 9, no. 28, 2016.

Conference Proceedings

- 1 E. Apriaskar, D. Prastiyanto, A. A. Manaf, I. Amelia, and Fahmizal, "Multi-criteria genetic algorithm optimization approach for balancing bicopter control," in *IOP Conference Series: Earth and Environmental Science*, IOP Publishing, vol. 1203, 2023, p. 012 027.
- 2 Fahmizal, H. A. Nugroho, A. I. Cahyadi, and I. Ardiyanto, "Tuning lqr parameters using neuro evolution of augmenting topologies (neat) on a double pendulum cart," in *2022 11th Electrical Power, Electronics, Communications, Controls and Informatics Seminar (EECCIS)*, IEEE, 2022, pp. 270–275.
- 3 ———, "Twin rotor mimo system control using linear quadratic regulator with simechanics," in *2021 7th International Conference on Electrical, Electronics and Information Engineering (ICEEIE)*, IEEE, 2021, pp. 301–306.
- 4 U. Y. Oktawati, M. N. F. Alfata, Fahmizal, S. D. Rahayu, A. F. Ridwan, D. Y. Kusuma, and C. V. H. Permana, "Development of monitoring system of furnace temperature for fire resistance test," in *2021 International Conference on Electrical, Communication, and Computer Engineering (ICECCE)*, IEEE, 2021, pp. 1–6.
- 5 E. Apriaskar, Fahmizal, and M. Fauzi, "Robotic technology towards industry 4.0: Automatic object sorting robot arm using kinect sensor," in *Journal of Physics: Conference Series*, IOP Publishing, vol. 1444, 2020, p. 012 030.

- 6 Fahmizal, M. Arrofiq, E. Apriaskar, and A. Mayub, "Rigorous modelling steps on roll movement of balancing bicopter using multi-level periodic perturbation signals," in *2019 6th International Conference on Instrumentation, Control, and Automation (ICA)*, IEEE, 2019, pp. 52–57.
- 7 Fahmizal, A. Priyatmoko, E. Apriaskar, and A. Mayub, "Heading control on differential drive wheeled mobile robot with odometry for tracking problem," in *2019 International Conference on Advanced Mechatronics, Intelligent Manufacture and Industrial Automation (ICAMIMIA)*, IEEE, 2019, pp. 47–52.
- 8 Fahmizal and A. Mayub, "Vobiro-vocational bipedal robot platform, kinematic and locomotion control," in *2018 10th International Conference on Information Technology and Electrical Engineering (ICITEE)*, IEEE, 2018, pp. 1–6.
- 9 Fahmizal, A. Surriani, M. Budiyo, and M. Arrofiq, "Altitude control of quadrotor using fuzzy self tuning pid controller," in *2017 5th International conference on Instrumentation, Control, and Automation (ICA)*, IEEE, 2017, pp. 67–72.
- 10 B. T. Nugraha, S.-F. Su, and Fahmizal, "Towards self-driving car using convolutional neural network and road lane detector," in *2017 2nd international conference on automation, cognitive science, optics, micro electro-mechanical system, and information technology (ICACOMIT)*, IEEE, 2017, pp. 65–69.
- 11 Fahmizal and C. H. Kuo, "Trajectory and heading tracking of a mecanum wheeled robot using fuzzy logic control," in *2016 International Conference on Instrumentation, Control and Automation (ICA)*, IEEE, 2016, pp. 54–59.
- 12 Fahmizal, T. S. Chen, S. W. Chi, and C. H. Kuo, "Fuzzy controller based subsumption behavior architecture for autonomous robotic wheelchair," in *2013 International Conference on Advanced Robotics and Intelligent Systems*, IEEE, 2013, pp. 158–163.
- 13 Fahmizal and C.-H. Kuo, "Development of a fuzzy logic wall following controller for steering mobile robots," in *2013 International Conference on Fuzzy Theory and Its Applications (iFUZZY)*, IEEE, 2013, pp. 7–12.

Skills

Languages	■ Bahasa Indonesia, Minang, Jawa, English.
Coding	■ C/C++, Python, MATLAB, Java, \LaTeX .
Mechanical Design	■ Autodesk Inventor, Fusion360, Solidworks, Free CAD.
Electronics Design	■ Autodesk Eagle, KiCAD.
Embedded System	■ Arduino, Tenncy, Raspberry Pi, Jetson Nano.
Web Dev	■ HTML, CSS.
Misc.	■ Academic research, teaching, training, consultation and publishing.

Miscellaneous Experience

Awards and Achievements

- 2019 ■ **Dosen Muda Berprestasi**, Awarded by Dean of Vocational College UGM, Wikan Sakarinto, Ph.D.

Certification

- 2021 ■ **Sertifikasi Dosen Professional**. Awarded by DIKTI.
 ■ **PEKERTI**. Awarded by UNY.