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Department of Electrical and Electronics Engineering
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Mr. Yakoub, an academic and scholar, holds a Ph.D. in Electronics from Yildiz Technical University, specializing in Robust and Intelligent Control System Designs. His groundbreaking research focuses on enhancing the precision of underactuated quadrotor UAVs. With over four years of teaching and research experience, he earned his Master's in Control and Automation from Setif-1 University, Algeria (2014). Beyond academia, Mr. Yakoub serves as a field service engineer, specializing in High Voltage Test instruments within Electrical Substations and as a Control specialist and instrumentist in the field of gas turbines (2017-2021) – not mentioned in this academic CV. Additionally, he currently holds the position of Assistant Professor in Electric & Electronics Department at İstanbul Sabahattin Zaim University.

Current and Past Leadership Roles

- Lecturer, Electronic Engineering Department, Kasdi Merbah and Setif University (2015-2016)
- FSE, specializing in HV Test instruments, and I&C specialist in the field of gas turbines (2017-2021)
- Head of Computer Science and Robotics Department, Gökkuşağı International School, Istanbul (2021-2023)
- Assistant Professor, Electronic Engineering Department, İstanbul Gelişim University (Feb 2024 - Sept 2024)
- Team Supervisor for Teknofest Fighter UAVs Project (Dec 2024 – Current)
- Assistant Professor, Electronic Engineering Department, İstanbul Sabahattin Zaim University (Sept 2024 -current)

Research Interests

- Reinforcement Learning for UAV Control
- Amalgamation of different control system and Observer designs
- Movement and Programmed Behavior of Unmanned Aircraft/Spacecraft
- Real-time Decision Making IoT & Embedded Systems
- AI enabled UAVs for Autonomous Navigation
- AI-powered Computer Vision based UAVs for Object Recognition
- Swarm Intelligence & Bio-inspired Algorithms
- Flight Tolerant Systems & Trajectory Tracking and Correction

Education Background

- Degree: Ph.D. in Electronics Engineering (2023)
  University Name: Yıldız Technical University, Türkiye
  Program Nature: Mixed Mode (8 Courses and Two Semester-based Research Dissertation)
  CGPA: 3.56/4.00

Thesis Title: Robust Control System Design for Non-Linear Systems.

Awarded a PhD degree in Electronics Engineering (Category 1*) with a research focus on robust adaptive finite-time control designs for Underactuated Quadcopter on June 22, 2023, at Yildiz Technical University, Istanbul, Turkey.

Courses Completed

- *Applied Signal Processing*
- *Design of Digital Control Systems*
- *System Theory*
- *Current Mode Circuits*
- *Estimation Theory*
- *Adaptive Filter Theory*
- *Implementations of Advanced Microwave Passive Circuits, I*
- *Optimization Algorithms*
- *Communication and Target Detection in Mobile Robot Applications*
- *Research Methods and Scientific Ethics*

- Degree: Master of Science in Control and Automation Engineering (2014)
  University Name: Setif -1 University, Setif Algeria
  Program Nature: Mixed Mode (12 Courses and Two Semester)
  CGPA: 15.06/20
  Title of Thesis: Robust and Intelligent Control for DC-DC Power Converters

- Degree: Bachelor of Electronic Engineering (2010)
  University Name: M'Sila University M'Sila Algeria
  CGPA: 13.74/20
  Final Year Project Design: Comparative Study, Modeling, and Control of Top-Drive Machines Driven by DC and AC Motors

Career History & Accomplishments

- Assistant Professor, Electronic Engineering Department
  Duration: Feb 2024 - Current
  Job Description: Managing Electrical and Electronics Engineering classes for Bachelor's and Master's degrees with 10 to 20 students, overseeing courses including Control Systems (EEM 331), Advanced Numerical Analysis (EEE544), and Low Voltage Systems (EEE208). Developed and implemented innovative curricula, projects, and activities to foster student engagement and learning, and conducted comprehensive exams to assess student progress.
  Institute/Department: Electrical and Electronics department Organization
  Name: - İstanbul Gelişim University
  - İstanbul Sabahattin Zaim University
  Courses taught are as mentioned below:

  At Istanbul Gelişim University: Feb 2024 – Sept 2024

  - Advanced Numerical Analysis EEE544
  - Low Voltage Systems EEE208

  At Istanbul Sabahattin Zaim University: Sept 2024 – Current

  - Logic Design EEM 221
  - Control Systems EEM331
  - Fuzzy Control EEM 437
  - Optimal Control EEM 430
  - Discrete Control Systems EEM 332
  - Robotics Engineering EEM 336

- Designation: Trainer at Training Centers
- Duration: Sept 2023 until Feb 2024.
  Job Description: Conducted comprehensive training sessions in Industrial Electricity, Oil and Gas Instrumentations, Siemens PLCs (S7-200, S7-300, S7-400, S7-1200), and Gas Turbine Control System MARKV-e.
  Institute/Centre: Training Centers
  Organization Name: Soneltech Engineering and TekWin Center, Algiers-Algeria

- Designation: Research assistant at Yildiz Technical University
  Duration: Dec 2022 until Jun 2023.
  Job Description: Performing research aligned with the scope of centre and maintain the research facility.
  Institute/Centre: Control and Automation Lab
  Organization Name: Yildiz Technical University, Istanbul-Türkiye

- Designation: Head of Computer Science department and Teacher
  Duration: Dec 2021 until Feb 2022.
  Job Description: Overseeing curriculum design, and teacher support, collaborating while also teaching high-school-level Computer Programming and Robotics, guiding students, and staying updated through continuous professional development.
  Institute/Centre: STEAM Lab.
  Organization Name: Gökkuşağı International School, Istanbul-Türkiye

- Designation: Lecturer, at Kasdi Merbah University
  Duration: Sept 2015 until June 2016
  Job Description: Teaching Theoretical and Lab Courses
  Courses taught are as mentioned below:

    - Introduction to Control Engineering
    - Control System Design
    - Feedback Control Systems
    - Advanced Control Theories
    - Control Theories Laboratory

- Designation: Graduate Research Assistant (GRA),
  Duration: Oct 2013 until Dec 2013
  Project title: Genetic Algorithm Based Adaptive Fuzzy Terminal Synergetic Control for DC-DC Buck Converter
  Institute/Centre: Automatic Laboratory of Setif (L.A.S)
  Organization Name: Setif University, Algeria

Research Publications

Science Citation Indexed Journal Papers

- Aisha Sir Elkhatem, Y. Nettari, “Reducing the Impact of Q and R Weighting Matrix Selection in LQR-Based Quadrotor Attitude and Altitude Control”, Aerospace Systems, (Under review),2025
- S.Boudjaza, A.Chehhat, B.Rebai, Y.Nettari, A.Kaddour, M.Wadi “Optimizing Geothermal Energy Pile (GEP) Systems: A Combined Analytical and Numerical Study Under Various Heat Exchanger Arrangements”, International Communications in Heat and Mass Transfer, (Under review),2025
- Nettari, Yakoub, Moussa Labbadi, and Serkan Kurt. "Adaptive robust finite-time tracking control for quadrotor subject to disturbances." Advances in Space Research 71, no. 9 (2023): 3803-3821.
- Y. Nettari and S. Kurt, "Design of a New Non-Singular Robust Control Using Synergetic Theory for DC-DC Buck Converter", Electrica, vol. 18, no. 2, pp. 292-299, Aug. 2018

SCOPUS Recognized Journal Papers

- Nettari, Yakoub, Serkan Kurt, and Moussa Labbadi. "Adaptive Robust Control based on Backstepping Sliding Mode techniques for Quadrotor UAV under external disturbances." IFAC-PapersOnLine 55, no. 12 (2022): 252-257.
- Nettari, Yakoub, Moussa Labbadi, and Serkan Kurt. "Adaptive Backstepping Integral Sliding Mode Control Combined with Super-Twisting Algorithm for Nonlinear UAV Quadrotor System." IFACPapersOnLine 55, no. 12 (2022): 264-269.
- Y.Nettari and M.N.Harmas "Genetic Algorithm Based Adaptive Non-Singular Terminal Synergetic DC-DC Converter Control" The International Journal on Advanced Electrical Engineering, Vol 1,no.4, pp. 218-228, Nov 2013.

International Conference Papers

- A. KIFOUCHE, A. KADDOUR, Y.Nettari, N. Mohammed, T. Reda, O. BAYASLI, N. RAI «EAHE Modeling Using Artificial Neural Network» 5th International Conference on Innovative Academic Studies October 10- 11, 2024: Konya, Turkey
- A. KIFOUCHE, A. KADDOUR, Y.Nettari, N. Mohammed, T. Reda, O. BAYASLI, N.RAI «Online Spikes Sorting Using Templates Matching» 5th International Conference on Innovative Academic Studies October 10-11, 2024: Konya, Turkey
- Y.Nettari, S.Kurt, M.Labbadi « Adaptive Robust Control based on Backstepping Sliding Mode techniques for Quadrotor UAV under external disturbances» Part of special issue: 14th IFAC Workshop on Adaptive and Learning Control Systems ALCOS 2022: Casablanca, Morocco, June 29 – July 01, 2022, Volume 55, Issue 12,2022,Pages 252-257,ISSN 2405-8963, https://doi.org/10.1016/j.ifacol.2022.07.320.
- Y.Nettari, M.Labbadi, S.Kurt « Adaptive Backstepping Integral Sliding Mode Control Combined with Super-Twisting Algorithm For Nonlinear UAV Quadrotor System» Part of special issue: 14th IFAC Workshop on Adaptive and Learning Control Systems ALCOS 2022: Casablanca, Morocco, June 29 – July 01, 2022, Volume 55, Issue 12, 2022,Pages 264-269,ISSN 2405-8963, https://doi.org/10.1016/j.ifacol.2022.07.322.
- Y. Nettari and M. N. Harmas, "Genetic algorithm based adaptive fuzzy terminal synergetic DC-DC converter control," 2015 3rd International Conference on Control, Engineering & Information Technology (CEIT), Tlemcen, Algeria, 2015, pp. 1-7, doi: 10.1109/CEIT.2015.7233108.
- Y.Nettari and M.N.Harmas «Adaptive Non-Singular Terminal Synergetic Control for SISO systems » International conference on electrical engineering and automatic control, Setif– Algeria, November 2014.
- Y.Nettari and M.N.Harmas « Adaptive Synergetic Control for DC-DC Converters » International Conference on Power Electronics and their Applications (ICPEA'13) Djelfa– Algeria, November 2013.

Book Chapters

- Y. Nettari and Y. Elnoti, "Mathematical modeling of quadrotor drone," in Innovations and Applications of Artificial Intelligence in Electrical and Electronics Engineering, M. Wadi, M. Salemdeeb, & M. S. S. Jouda, Eds. Lyon, France: Livre de Lyon, 2025, ss. 257–271. e-ISBN: 978-2-38236-821-3.
- Y. Nettari, "Advanced robust disturbance-rejection control design for quadrotor UAV systems in tracking aggressive trajectories," in Innovations and Applications of Artificial Intelligence in Electrical and Electronics Engineering, M. Wadi, M. Salemdeeb, & M. S. S. Jouda, Eds. Lyon, France: Livre de Lyon, 2025, ss. 113–140. e-ISBN: 978-2-38236-821-3.
- F. Berrimi, R. Hedli, and Y. Nettari, "Image enhancement: A comprehensive study of spatial filtering," in Innovations and Applications of Artificial Intelligence in Electrical and Electronics Engineering, M. Wadi, M. Salemdeeb, & M. S. S. Jouda, Eds. Lyon, France: Livre de Lyon, 2025, ss. 171–202. e-ISBN: 978-2-38236-821-3.

Reviewer for Scientific Journals /Conferences

Reviewing the research manuscripts for following journals mentioned below:

- Advances in Space Research Journal
- Qeios Journal
- Nonlinear Dynamics Journal

References

- Prof. Dr. Abdelmadjid Chaoui
  Professor and PhD Supervisor
  Electrical and Electronic Engineering Department
  Setif-1 University, Algeria.
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- Assoc. Prof. Dr. Serkan KURT
  Associate professor and PhD Supervisor
  Electronic and Communication Engineering Department
  Yildiz technical University, Istanbul-Türkiye.

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