Zejiang Wang
National Transportation Research Center
Oak Ridge National Laboratory
Knoxville, TN 37932
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Phone: 614-284-0007

SUMMARY OF QUALIFICATIONS

- Eight years of experience in dynamic systems and control, focus on vehicle dynamics, autonomous driving, driver/vehicle interaction, and intelligent transportation systems
- Multidisciplinary education background in mechanical engineering, control engineering, and cyber-physical systems
- Expert in model-based and data-driven estimation, control, and optimization: Differential flatness, model predictive control, algebraic parameter identification, model-free control, extremum-seeking
- Hands-on experience with dSPACE Scalexio/MicroAutoBox, Cruden driving simulator, indoor GPS, V2V communication device, iMotions biometrics software, and scaled car self-driving platforms
- Industrial research experiences at Oak Ridge National Laboratory, Mitsubishi Electric Research Laboratories, Mitsubishi Electric Automotive America, and French Institute of Petroleum
- Mentored 12 graduate and undergraduate students and supervised 2 Master's theses
- Trilingual: Chinese, English, and French

EDUCATION

The University of Texas at Austin, United States August 2018 - May 2022
Ph.D. Mechanical Engineering
Advisor: Prof. Junmin Wang
Dissertation: Ground vehicle motion control considering human driver characteristics for connected vehicles driving safety enhancement

The Ohio State University, United States August 2017 - July 2018
Ph.D. student in Mechanical Engineering
Advisor: Prof. Junmin Wang

École Polytechnique, University of Paris-Saclay, France July 2016 - July 2017
M.S. Design, Modeling, and Architecture of Complex Industrial Systems (Double degree)
Advisor: Prof. Hugues Mounier
Thesis: Flatness-based vehicle path tracking and dynamics control

ENSTA ParisTech, France July 2014 - July 2017
Dipl. Ing. Embedded System and Cyber-Physical System

Southeast University, China August 2010 - June 2014
B.E. Mechanical Engineering (with Honors)

RESEARCH EXPERIENCE

Postdoctoral Research Associate, Oak Ridge National Laboratory July 2022 - Present
National Transportation Research Center | Manager: Dr. Burak Ozipineci
Topic: Cooperative driving automation: Analysis and design

- Analyzed communication requirements and computational loads of representative cooperative driving automation (CDA) control algorithms
- Developed novel fault-tolerant CDA control algorithms under communication bandwidth constraints
- Created 'digital-twin' urban and highway traffic scenarios with traffic simulator, vehicle dynamics software, virtual reality rendering tools, and hardware-in-the-loop facilities
- Validated the designed CDA control algorithms under the digital-twin virtual reality environment

Graduate Research Assistant, The University of Texas at Austin August 2018 – June 2022
Walker Department of Mechanical Engineering | Advisor: Prof. Junmin Wang

Topic a): Learning-free data-driven optimal control with applications to automotive systems

- Invented ultra-local model predictive control and compared its performance with a model-based predictive controller on the DonkeyCar platform
- Introduced extremum-seeking-based model-free controller and demonstrated its superiority over existing gain tuning methods for model-free control
- Combined extremum-seeking control with ultra-local model predictive control for electric motor speed control and validated the algorithm on the Quanser QCar platform
- Mentored two graduate students, resulting in co-authorship on two journal papers and one conference paper

Topic b): Human-centric advanced driver assistance system design

- Proposed to allocate the embedded hardware resources, e.g., memory and processor time, to longitudinal and lateral driving assistance systems per driver's capabilities, and verified the benefits with human subject driving-simulator experiments
- Developed two purely algebraic parameter identifiers to estimate driver steering model and car-following model parameters in real time
- Initiated a differentially flat driver-vehicle-road model, developed a personalized flatness lane-keeping system, and validated the controller with human subject driving-simulator experiments
- Proposed a personalized direct yaw moment controller for ground vehicle collision avoidance
- Mentored two graduate students, resulting in co-authorship on two papers

Topic c): Efficient model predictive control for autonomous driving

- Proved the differential flatness property of a novel vehicle kino-dynamic model
- Designed a flatness model-predictive controller and compared its performance and computational load with a linear-time-varying and a nonlinear model-predictive controller via dSPACE hardware-in-the-loop simulation

Graduate Research Assistant, The Ohio State University August 2017 - July 2018

Department of Mechanical and Aerospace Engineering | Advisor: Prof. Junmin Wang

Topic: Automotive cyber-physical systems design for efficiency and safety enhancement

- Developed a real-time parameter tuning algorithm to maximize the performance of a linear-time-varying model-predictive controller for autonomous vehicle path tracking with the computational and safety constraints.
- Collaborated with Prof. Xiaorui Wang at The Ohio State University and
  1). Designed a dynamical V2V communication channel selection algorithm for enhancing the driving safety of a connected vehicle platoon
  2). Validated an operating system middleware that optimized automated vehicle's path-tracking performance while minimizing the end-to-end execution deadline miss ratio

Visiting Scholar, French National Center for Scientific Research March 2017 - July 2017

Laboratory of Signals and Systems (L2S) | Advisor: Prof. Hugues Mounier

Topic: Flatness-based vehicle path tracking and dynamics control

- Developed two flatness path-tracking controllers for vehicle dynamics control and path following, and validated the controllers on the TORCS platform

Graduate Research Assistant, Southeast University November 2015 - July 2016

School of Mechanical Engineering | Advisor: Prof. Rongrong Wang

Topic: Vehicle dynamics control after impacts

- Developed one sliding-mode based active front steering controller for vehicle stability control after impacts, and validated the controller on the CarSim-Simulink joint platform

INDUSTRIAL EXPERIENCE

Research Intern, Mitsubishi Electric Research Laboratories August 2021 – December 2021

Control for Autonomy Group | Advisors: Dr. Rien Quirynen, Dr. Yebin Wang, Dr. Stefano Di Cairano

Topic: Path planning and model predictive control for autonomous truck hitching

- Developed path planning and control algorithms for autonomous truck hitching and verified the algorithms with dSPACE hardware-in-the-loop platform
- Collaborated with Mitsubishi Electric Automotive America to deploy the algorithms onboard

Engineering Intern, French Institute of Petroleum April 2015 – October 2015
Mechatronics Division | Advisors: Dr. Thomas Leroy, Prof. Florent Di Meglio (Mines ParisTech)
Topic: Online abnormal combustion detection for an engine with turbo

- Modeled and simulated the in-cylinder pressure of a combustion engine with turbo
- Designed a Kalman-filter-based algorithm for detecting abnormal combustion online

PUBLICATIONS

Peer-Reviewed Journal Articles

[J20]. **Zejiang Wang**, Xingyu Zhou, and Junmin Wang, "Extremum-seeking-based adaptive model-free control with application to automated vehicle trajectory following", *IEEE/ASME Transactions on Mechatronics*, in press.

[J19]. Xingyu Zhou, **Zejiang Wang**, and Junmin Wang, "Automated vehicle path following: A non-quadratic-Lyapunov-function-based model reference adaptive control approach with C_∞ smooth projection modification," *IEEE Transactions on Intelligent Transportation Systems*, in press.

[J18]. Yujing Zhou, **Zejiang Wang**, and Junmin Wang, "Illumination-resilient lane detection by threshold self-adjustment using newton-based extremum seeking," *IEEE Transactions on Intelligent Transportation Systems*, in press.

[J17]. Yunhao Bai, Li Li, **Zejiang Wang**, Xiaorui Wang, and Junmin Wang, "Performance optimization of autonomous driving control under end-to-end deadlines," *Real-Time Systems*, in press.

[J16]. Heran Shen, **Zejiang Wang**, Xingyu Zhou, Maxavier Lamantia, Kuo Yang, Pingen Chen, and Junmin Wang, "Electric vehicle velocity and energy consumption predictions using transformer and Markov-chain Monte Carlo," *IEEE Transactions on Transportation Electrification*, in press.

[J15]. Xingyu Zhou, **Zejiang Wang**, Heran Shen, and Junmin Wang, "Systematic synthesis of a class of smooth parameter projection operators for stable adaptive systems," *ASME Letters in Dynamic Systems and Control*, vol. 2, Jul. 2022, doi: 10.1115/1.4055082.

[J14]. Xingyu Zhou, **Zejiang Wang**, Heran Shen, and Junmin Wang, "Robust adaptive path-tracking control of autonomous ground vehicles with considerations of steering system backlash," *IEEE Transactions on Intelligent Vehicles*, in press.

[J13]. **Zejiang Wang**, Xingyu Zhou, Heran Shen, and Junmin Wang, "Algebraic driver steering model parameter identification," *Journal of Dynamic Systems, Measurement, and Control*, doi: 10.1115/1.4053431.

[J12]. **Zejiang Wang**, Adrian Cosio, and Junmin Wang, "Implementation resource allocation for collision-avoidance assistance systems considering driver capabilities," *IEEE Transactions on Intelligent Transportation Systems*, doi: 10.1109/TITS.2021.3117918.

[J11]. Xingyu Zhou, **Zejiang Wang**, and Junmin Wang, "Automated ground vehicle path-following: A robust energy-to-peak control approach," *IEEE Transactions on Intelligent Transportation Systems*, doi: 10.1109/TITS.2021.3126467.

[J10]. Heran Shen, Xingyu Zhou, **Zejiang Wang**, and Junmin Wang, "State of charge estimation for lithium-ion battery using transformer with immersion and invariance adaptive observer," *Journal of Energy Storage*, vol. 45, p. 103768, Jan. 2022, doi: 10.1016/j.est.2021.103768.

[J9]. Xingyu Zhou, **Zejiang Wang**, Heran Shen, and Junmin Wang, "Yaw-rate-tracking-based automated vehicle path following: An MRAC methodology with a closed-loop reference model," *ASME Letters in Dynamic Systems and Control*, vol. 2, no. 2, Apr. 2022, doi: 10.1115/1.4053242.

[J8]. **Zejiang Wang**, Xingyu Zhou, and Junmin Wang, "An algebraic evaluation framework for a class of car-following models," *IEEE Transactions on Intelligent Transportation Systems*, doi: 10.1109/TITS.2021.3113788.

[J7]. Xingyu Zhou, **Zejiang Wang**, and Junmin Wang, "Popov- H_∞ robust path-tracking control of autonomous ground vehicles with consideration of sector-bounded kinematic nonlinearity," *Journal of Dynamic Systems, Measurement, and Control*, vol. 143, no. 11, Nov. 2021, doi: 10.1115/1.4051466.
[J6]. **Zejiang Wang**, Yunhao Bai, Jingqiang Zha, Junmin Wang, and Xiaorui Wang, "Connected vehicle driving safety enhancement via dynamic communication channel selection," *Mechatronics,* vol. 74, p. 102512, Apr. 2021, doi: 10.1016/j.mechatronics.2021.102512.
[J5]. **Zejiang Wang** and Junmin Wang, "Ultra-local model predictive control: A model-free approach and its application on automated vehicle trajectory tracking," *Control Engineering Practice*, vol. 101, 2020, doi: 10.1016/j.conengprac.2020.104482.
[J4]. Yunhao Bai, Kuangyu Zheng, **Zejiang Wang**, Xiaorui Wang, and Junmin Wang, "MC-Safe: Multi-channel real-time V2V communication for enhancing driving safety," *ACM Transactions on Cyber-Physical Systems*, vol. 4, no. 4, Aug. 2020, doi: 10.1145/3394961.
[J3]. **Zejiang Wang**, Jingqiang Zha, and Junmin Wang, "Autonomous vehicle trajectory following: A flatness model predictive control approach with hardware-in-the-loop verification," *IEEE Transactions on Intelligent Transportation Systems,* vol. 22, no. 9, pp. 5613–5623, Sep. 2021, doi: 10.1109/TITS.2020.2987987.
[J2]. **Zejiang Wang**, Yunhao Bai, Junmin Wang, and Xiaorui Wang, "Vehicle path-tracking linear-time-varying model predictive control controller parameter selection considering central process unit computational load," *Journal of Dynamic Systems, Measurement, and Control*, vol. 141, no. 5, May 2019, doi: 10.1115/1.4042196.
[J1]. Rongrong Wang, Chuan Hu, **Zejiang Wang**, Fengjun Yan, and Nan Chen, "Integrated optimal dynamics control of 4WD4WS electric ground vehicle with tire-road frictional coefficient estimation," *Mechanical Systems and Signal Processing*, vol. 60–61, pp. 727–741, Aug. 2015, doi: 10.1016/J.YMSSP.2014.12.026.

Peer-Reviewed Conference Papers

[C27]. Zhenwu Fang, Jinxin Chen, Jinxiang Wang, **Zejiang Wang**, Neng Liu, and Guodong Yin, "Driver distraction behavior detection using a vision transformer model based on transfer learning strategy," *6th CAA International Conference on Vehicular Control and Intelligence*, Oct. 2022, in press.
[C26]. **Zejiang Wang**, Ahmad Ahmad, Rien Quirynen, Yebin Wang, Akshay Bhagat, Eyad Zeino, Yuji Zushi, and Stefano Di Cairano, "Motion planning and model predictive control for automated tractor-trailer hitching maneuver," *IEEE Conference on Control Technology and Applications*, Oct. 2022, in press.
[C25]. Junghyun Choi, Dohee Kim, Jeong Soo Eo, Kanghyun Nam, **Zejiang Wang**, Junmin Wang, and Sehoon Oh, "Coordinated steering angle and yaw moment distribution to increase vehicle regenerative energy in autonomous driving," *IEEE Intelligent Transportation Systems Conference,* Oct. 2022, in press.
[C24]. Yujing Zhou, **Zejiang Wang**, Xingyu Zhou, Heran Shen, Hyunjin Ahn, and Junmin Wang, "Extremum-seeking-based ultra-local model predictive control and its application to electric motor speed regulation," *2022 IFAC Modeling, Estimation and Control Conference*, Oct. 2022, in press.
[C23]. Hyunjin Ahn, **Zejiang Wang**, Heran Shen, Xingyu Zhou, and Junmin Wang, "A two-stage genetic algorithm for battery sizing and route optimization of medium-duty electric delivery fleets," *2022 IFAC Modeling, Estimation and Control Conference*, Oct. 2022, in press. ***(ASME ATS Best Paper Award)***
[C22]. Xingyu Zhou, Heran Shen, **Zejiang Wang**, Hyunjin Ahn, and Junmin Wang, "Linear motor command tracking: a novel immersion and invariance adaptive control method with arctangent-function-based parameter projection," *2022 IFAC Modeling, Estimation and Control Conference*, Oct. 2022, in press. ***(MECC Best Student Paper Award Finalist)***
[C21]. Heran Shen, Xingyu Zhou, **Zejiang Wang**, Hyunjin Ahn, Lamantia Maxavier, Pingen Chen, and Junmin Wang, "Electric vehicle energy consumption estimation with consideration of longitudinal slip ratio and machine-learning-based powertrain efficiency," *2022 IFAC Modeling, Estimation and Control Conference*, Oct. 2022, in press.
[C20]. Xingyu Zhou, Heran Shen, **Zejiang Wang**, and Junmin Wang, "Individualizable vehicle lane keeping assistance system design: a linear-programming-based model predictive control approach," *2022 IFAC Modeling, Estimation and Control Conference*, Oct. 2022, in press.

[C19]. Xingyu Zhou, Heran Shen, **Zejiang Wang**, and Junmin Wang, "Self-scheduled L_1 robust vehicular sideslip angle estimation," *American Control Conference*, July. 2022, in press.
[C18]. Xingyu Zhou, **Zejiang Wang**, Heran Shen, and Junmin Wang, "A biquadratic-Lyapunov-function-based adaptive control methodology with application to automated ground vehicle path tracking," *American Control Conference*, July. 2022, in press.
[C17]. Heran Shen, Xingyu Zhou, **Zejiang Wang**, J. Wang, "State of charge estimation for lithium-ion batteries in electric vehicles by transformer neural network and L_1 robust observer," *American Control Conference*, July. 2022, in press.
[C16]. **Zejiang Wang**, Xingyu Zhou, Junmin Wang, "Algebraic car-following model parameter identification," *2021 IFAC Modeling, Estimation and Control Conference, IFAC-PapersOnLine,* vol. 54, pp. 864-869, doi: 10.1016/j.ifacol.2021.11.280.
[C15]. Heran Shen**, Zejiang Wang**, Kuo Yang, Maxavier Lamantia, Pingen Chen, Junmin Wang, "Comparison of different variable combinations for electric vehicle power prediction using kernel adaptive filter," *2021 IFAC Modeling, Estimation and Control Conference*, *IFAC-PapersOnLine,* vol. 54, pp. 858-863, doi: 10.1016/j.ifacol.2021.11.279.
[C14]. Yujing Zhou, **Zejiang Wang**, Junmin Wang, "Real-time adaptive threshold adjustment under different lighting conditions using model-free control for lane detection application," *2021 IFAC Modeling, Estimation and Control Conference*, *IFAC-PapersOnLine,* vol. 54, pp. 147-152, doi: 10.1016/j.ifacol.2021.11.167.
[C13]. Xingyu Zhou, **Zejiang Wang**, Adrian Cosio, Junmin Wang, "Parameterized derivative-free optimization approach for car-following model calibration," *2021 IFAC Modeling, Estimation and Control Conference*, *IFAC-PapersOnLine,* vol. 54, pp. 876-881, doi: 10.1016/j.ifacol.2021.11.282.
[C12]. Xingyu Zhou, **Zejiang Wang**, Junmin Wang, "Driver steering torque estimation via robust generalized H_2 filtering for human-automation shared driving," *2021 IFAC Modeling, Estimation and Control Conference*, *IFAC-PapersOnLine,* vol. 54, pp. 895-900, doi: 10.1016/j.ifacol.2021.11.285. ***(ASME ATS Best Paper Award Finalist)***
[C11]. Yunhao Bai, **Zejiang Wang**, Xiaorui Wang, and Junmin Wang, "AutoE2E: End-to-end real-time middleware for autonomous driving control," *International Conference on Distributed Computing Systems*, 1101–1111, Nov. 2020, doi: 10.1109/ICDCS47774.2020.00092.
[C10]. **Zejiang Wang** and Junmin Wang, "Personalized ground vehicle collision avoidance system: From a computational resource re-allocation perspective," *IEEE Symposium on Intelligent Vehicle*, pp. 598–603, 2020, doi: 10.1109/IV47402.2020.9304754.
[C9]. **Zejiang Wang** and Junmin Wang, "Real-time driver model parameter identification: An algebraic approach," *Dynamic Systems and Control Conference*, vol. 1, Jan. 2021, doi: 10.1115/DSCC2020-3113. ***(ASME ATS Best Paper Award)***
[C8]. Wei Wang, **Zejiang Wang**, Xinbo Chen, and Junmin Wang, "A lateral motion planning method for automated vehicles based on sinusoids," *Dynamic Systems and Control Conference*, vol. 1, Jan. 2021, doi: 10.1115/DSCC2020-3115.
[C7]. **Zejiang Wang** and Junmin Wang, "Driver-friendly emergency collision avoidance system via flatness direct yaw moment control," *International Design Engineering Technical Conferences & Computers and Information in Engineering Conference*, vol. 3, Nov. 2019, doi: 10.1115/DETC2019-98174.
[C6]. **Zejiang Wang**, Jingqiang Zha, and Junmin Wang, "Flatness-based model predictive control for autonomous vehicle trajectory tracking," *IEEE Intelligent Transportation Systems Conference,* pp. 4146–4151, Oct. 2019, doi: 10.1109/ITSC.2019.8917260.
[C5]. **Zejiang Wang**, Yunhao Bai, Jingqiang Zha, Junmin Wang, and Xiaorui Wang, "Cooperative adaptive cruise control safety enhancement via dynamic communication channel selection," *American Control Conference,* pp. 521–526, Jul. 2019, doi: 10.23919/ACC.2019.8814653.
[C4]. Yunhao Bai, **Zejiang Wang**, Kuangyu Zheng, Xiaorui Wang, and Junmin Wang, "WiDrive: Adaptive WiFi-based recognition of driver activity for real-time and safe takeover," *International Conference on Distributed Computing Systems*, vol. 2019-July, pp. 901–911, Jul. 2019, doi: 10.1109/ICDCS.2019.00094.

[C3]. Yunhao Bai, Kuangyu Zheng, **Zejiang Wang**, Xiaorui Wang, and Junmin Wang, "Dynamic channel selection for real-time safety message communication in vehicular networks," *IEEE Real-Time Systems Symposium*, pp. 56–66, Jan. 2019, doi: 10.1109/RTSS.2018.00016.
[C2]. **Zejiang Wang**, Yunhao Bai, Junmin Wang, and Xiaorui Wang, "Parameter selection of an LTV-MPC controller for vehicle path tracking considering CPU computational load," *Dynamic Systems and Control Conference,* vol. 2, Nov. 2018, doi: 10.1115/DSCC2018-9129.
[C1]. Chuan Hu, Rongrong Wang, **Zejiang Wang**, Mohammed Chadli, and Fengjun Yan, "Integrated optimal dynamics control of 4WS4WD electric ground vehicles with tire-road frictional coefficient estimation," *American Control Conference,* pp. 5426–5431, Jul. 2015, doi: 10.1109/ACC.2015.7172188.

SELECTED HONORS AND AWARDS

- **2022 IEEE ITSS Best Dissertation Award – First Prize**
  IEEE Intelligent Transportation Systems Society, 2022
- **MECC Automotive and Transportation Systems Best Paper Award**
  ASME Dynamic Systems and Control Division, 2022
- **MECC Best Student Paper Award Finalist**
  IFAC-MECC, 2022
- **George J. Heuer, Jr. Ph.D. Endowed Graduate Fellowship**
  Cockrell School of Engineering, The University of Texas at Austin, 2021
- **SIAM Applied Math Mentorship Certificate**
  The University of Texas at Austin, 2021
- **MECC Automotive and Transportation Systems Best Paper Award Finalist**
  ASME Dynamic Systems and Control Division, 2021
- **Professional Development Awards**
  The University of Texas at Austin, 2021, 2020
- **DSCC Automotive and Transportation Systems Best Paper Award**
  ASME Dynamic Systems and Control Division, 2020
- **American Control Conference Student Travel Award**
  IEEE Control Systems Society, 2019
- **Southeast University Outstanding Undergraduate Honor**
  Southeast University, 2014
- **National Scholarship**
  Ministry of Education of China, 2013

TEACHING EXPERIENCE

- **Teaching Assistant**

ME 397 Real-Time Control System Labs, The University of Texas at Austin, Spring 2022

- **Graduate Student Instructor**

ME 266K Senior Design Projects, The University of Texas at Austin, Spring 2019

MENTORING EXPERIENCE

- **Jialiang Ma. Ph.D. Student, University of Macau** **Sep 2021 - Present**
  Current: Ph.D. student. University of Macau
- **Dr. Junghyun Choi. Postdoc, DGIST** **Dec 2021 - Feb 2022**
  Current: Senior Researcher. ETRI, South Korea
- **Xingyu Zhou. Ph.D. Student, UT Austin** **Aug 2020 – June 2022**
  Current: Ph.D. student. UT Austin
- **Heran Shen. Ph.D. Student, UT Austin** **Aug 2020 – June 2022**
  Current: Ph.D. student. UT Austin

- **Yujing Zhou. Graduate Student, UT Austin** **Aug 2020 – June 2022**
Current: Ph.D. student. Princeton University
- **Hyunjin Ahn. Graduate Student, UT Austin** **Aug 2020 – June 2022**
Current: Ph.D. student. UT Austin
- **Ahmad Ahmad. Graduate Student, Boston University** **Aug 2021 - Oct 2021**
Current: Ph.D. student. Boston University
- **Adrian Cosio. Graduate Student, UT Austin** **Sep 2019 - May 2021**
Current: R&D Aeronautical Engineer. Sandia National Laboratories
- **Vibhav Gaur. Graduate Student, UT Austin** **Sep 2019 - May 2020**
Current: Application Support Engineer. Mathworks
- **Veronica A. Alejandro. Undergraduate Student, UT Austin** **Nov 2021 - Dec 2021**
Current: Undergraduate Student. UT Austin (SIAM Applied Math Mentorship Program)
- **Peiran Wang. Undergraduate Student, UT Austin** **Mar 2021 - Aug 2021**
Current: Undergraduate Student. UT Austin (SIAM Applied Math Mentorship Program)
- **Brent Milligan. Undergraduate Student, UT Austin** **Apr 2019 - Dec 2019**
Current: Engineer. Naval Reactors

ACADEMIC SERVICES

- **Guest Editor**

Vehicles, Special Issue "Path Tracking for Automated Driving", April 2023.

- **Associate Editor**

American Control Conference, June 2023.
SAE International Journal of Connected and Automated Vehicles, Since 2022.

- **Session Organizer**

American Control Conference, "Automotive and Transportation System Invited Sessions," June 2023.
Conference on Vehicular Control and Intelligence, "Modelling, Estimation, Control, and Decision for Human-Vehicle System," October 2022.

- **Session Chair**

IFAC Modeling, Estimation, and Control Conference, "Microscopic Modeling and Driver Behavior," October 2021.

- **Journal Reviewer**

Applied Sciences, Agriculture, Control Engineering Practice, Designs, Drones, Electronics, Energies, Energy Science and Engineering, Future Transportation, IEEE Control Systems Letters, IEEE Open Journal of Vehicular Technology, IEEE Transactions on Control Systems Technology, IEEE Transactions on Intelligent Transportation Systems, IEEE Transactions on Intelligent Vehicles, IEEE Transactions on Systems, Man, and Cybernetics: Systems, IEEE Transactions on Vehicular Technology, Journal of Applied and Computational Mechanics, Journal of Dynamic Systems, Measurement and Control, Journal of The Franklin Institute, Mechatronics, Proceedings of the Institution of Mechanical Engineers. Part I: Journal of Systems and Control Engineering, Robotics and Autonomous Systems, Scientia Iranica, Sensors, SN Applied Sciences, Sustainability, Vehicles (**Reviewer board member**).

- **Conference Reviewer**

American Control Conference (ACC), Dynamic Systems and Control Conference (DSCC),
IEEE International Conference on Robotics and Automation (ICRA),
IEEE Intelligent Transportation Systems Conference (ITSC), IEEE Intelligent Vehicles Symposium (IV),
IEEE Conference on Control Technology and Applications (CCTA),
Modeling, Estimation and Control Conference (MECC).

MEMBERSHIPS

IEEE Member, ASME Member, SAE Member