Yasir Ali, PhD (NSFC-2026 & BJNSF-2026 Winner as PI)

Google Scholar Page IEEE Page Linkedin
+86-188-13060503 (WhatsApp)
WeChatID: dryasirali
yasiralibit@gmail.com
Zhengzhou, Henan, China
Research Interests: Secure and Resilient CPSs, Polar Code, UAVs, Chaotic Systems, and AI/ML

Education

2018.09 – 2024.06 **Ph.D.** Control Science and Engineering, Beijing Institute of Technology, China
- School of Automation
- Thesis: *Enhancing Physical Layer Communications and Security in Optimized CCSs*
- Adviser: Professor Yuanqing Xia

2015.09 – 2017.07 **MS.** Control Science and Engineering, Beijing Institute of Technology, China
- School of Automation
- Thesis: *A Detection and Mitigation Approach for CCSs against DDoS Attack*
- Adviser: Professor Yuanqing Xia

2009.09 – 2014.09 **B.Sc.** Electrical Engineering, University of Engineering and Technology, Peshawar
- Department of Electrical (Communication) Engineering
- Thesis: *Ultrasonic Radar System*
- Adviser: Assistant Professor Sahib Khan

Employment History

2024.10 – Present **Postdoctoral Researcher**, Zhengzhou Research Institute, Beijing Institute of Technology
As a Postdoctoral Researcher, my current work centers on the study of Polar Codes, UAVs, and AI/ML, particularly emphasizing the security and resilience of Cyber-Physical Systems. Several of my research findings have been published in leading international journals.

2017.08 – 2018.08 **Lecturer**, Mono-Tech Institute (MTI), Mardan, KP, Pakistan
Worked as a Lecturer in the Department of Electrical Technology, teaching several courses, including Electronic Devices, Computer Networks Security Fundamentals, Control Systems, Digital Communication, Electrical Network Analysis, and Signals and Systems.

2014.12 – 2015.08 **Electrical Engineer**, Power Plant, Saif Textile Mill Limited Gadoon (Swabi), KP, Pakistan
Installed and commissioned Caterpillar Gas Gensets (G3520C, G3516A/B), Diesel Genset D3512, and a Waste Heat Recovery Boiler; maintained, operated, and repaired 11kV HT and 440V LT VCBs, OCBs, and other electrical systems.

2014.09 – 2014.12 **Internship**, Rahman Cotton Mill Takht Bhai Pvt. (Ltd.), KP, Pakistan
Learned about different types of AC and DC motors and gained practical knowledge in electrical work within the industry.

2013.08 – 2013.10 **Internship**, Malakand Hydro Power Complex (Malakand-III), KP, Pakistan
Gained hands-on experience with power plant layout, its equipment and subsystems, operation methodology, and electrical maintenance techniques.

2013.06 – 2013.08 **Internship**, Pakistan Telecommunication Company Limited (PTCL)
Gained hands-on experience in operating and maintaining digital exchanges, OMCs/NMCs (EWSD, ZTE), and worked with CDAS, trunk booking, and telecom system quality assurance.

Refereed Journal Publications

J[1] **Yasir Ali**, T. Manzoor, H. Yang, L. You, R. Ma, C. Yan, T. Wang, Y. Xia, Fellow, IEEE, Efficient Multi-Dimensional Pipelined Chaotic Bulk-Codewords-Encryption for Cloud Control Systems, *IEEE Transactions on Cybernetics*. 55, 5014 - 5026 (2025), (SCI, Impact Factor: **10.5**), doi.

J[2] **Yasir Ali**, Y. Xia, W. Sułek, and T. Manzoor, Chaos Encryption-Based Secure Polar Coding for Network-Oriented Cloud Control System, *IEEE Transactions on Industrial Informatics*, 20, 3935 - 3947 (2023). (SCI, Impact Factor: **9.9**), doi.

J[3] H. Yang, Y. Ma, H. Xie, **Yasir Ali**, L. Dai, and Y. Xia, Fellow, IEEE, Resilient Output Feedback tube-based MPC for Cyber-Physical Systems Under Hybrid Attacks, *IEEE Transactions on Circuits and Systems I: Regular Papers*, (SCI, Impact Factor: **5.2**), doi.

J[4] T. Manzoor, H. Pei, Member, IEEE, Z. Sun, Member, IEEE, and **Yasir Ali**, Composite Learning-based Predictive Control Technique for Ducted-fan UAVs, *IEEE Transactions on Neural Networks and Learning Systems*, 36, 9395-9407 (2024). (SCI, Impact Factor: **8.9**), doi.

J[5] R. Ma, Y. Zhan, C. Wu, Z. Hong, **Yasir Ali**, and X. Yuanqing, Fellow, IEEE, QORA: Neural-Enhanced Interference-Aware Resource Provisioning for Serverless Computing, *IEEE Transactions on Automation Science and Engineering*, 22, 10609 - 10624 (2025), (SCI, Impact Factor: **6.4**), doi.

J[6] **Yasir Ali**, Y. Xia, Fellow, IEEE, T. Manzoor, S. Ali, M. Abouhawwash, S. S. Askar, A. K. Kumar, Member, IEEE, and R. Ma. Efficient Hardware Realization of SC Polar Decoders Using Compound Pipelined Processing Units and Auxiliary Registers, *IEEE Access*, 12, 23808-23826 (2024), (SCI, Impact Factor: **3.6**), doi.

J[7] **Yasir Ali**, Y. Xia, L. Ma, and A. Hammad, Secure Design For Cloud Control System Against Distributed Denial of Service Attack, *Control Theory and Technology*, 16, 14–24 (2018). (SCI, Impact Factor: **1.5**), doi.

J[8] **Yasir Ali**, and X. Yuanqing, Reliability Weight-based Extended Puncturing Mechanism for Polar Codes Using Translation Shift, *Transactions on Emerging Telecommunications Technologies*, 35, e4923, (2024), (SCI, Impact Factor: **2.5**), doi.

J[9] A. K. Kumar, **Yasir Ali**, R. R. Kumar, M. H. Assaf, and S. Ilyas, Artificial Intelligent and Internet of Things Framework for Sustainable Hazardous Waste Management in Hospitals, *Waste Management*, 203, 114816 (2025), (SCI, Impact Factor: **7.1**), doi.

J[10] T. Manzoor, Y. Xia, **Yasir Ali**, and K Hussain, Flight Control Techniques and Classification of Ducted Fan Aerial Vehicles, *Control Theory and Application*. 39 (2), 201-221, (EI), doi.

Refereed Conference Papers

C[1] **Yasir Ali**, Z. Shen, F. Zhu, G. Xiong, S. Chen, Y. Xia, F. and Y. Wang, Solutions Verification for Cloud-Based Networked Control System using Karush-Kuhn-Tucker Conditions, In Proceedings of Chinese Automation Congress (CAC), November 30-December 02, 2018, Xi'an, China, doi.

C[2] **Yasir Ali**, and W. Sułek, Measurement Analysis of Error Rate for Belief's Clipping and Quantization in Polar Codes, Radiocommunication and ICT Conference Krakow, September 19-21, 2023, Krakow, Poland, doi.

C[3] **Yasir Ali**, Y. Xia, and L. Ma, A Stabilizing Architecture for Cloud Control System against DDoS Attack, In Proceedings of Chinese Automation Conference (CAC), October 20-22, 2017, Jinan, Shandong, China, doi.

C[4] R. Ma, Y. Zhan, T. Yan, Y. Xia, and **Yasir Ali**, Interless: Interference-Aware Deep Resource Prediction for Serverless Computing, In Proceedings of 36th Chinese Control and Decision Conference (CCDC), May 25-27, 2024, Xi'an, China, doi.

C[5] L. Ma, Y. Xia, **Yasir Ali**, and Y. Zhan, Engineering problems in initial phase of cloud control system, In Proceedings of 36th Chinese Control Conference (CCC), July 26-28, 2017, Dalian, China, doi.

C[6] H. Ahmad, X. Yao, M. Muddassir, J. Chiragh and **Yasir Ali**, Humanoid robots object grasping and manipulation learning by demonstration, In Proceedings of 3rd International Conference on Control, Automation and Robotics (ICCAR), April 24-26, 2017, Nagoya, Japan, doi.

Ongoing work

SJ[1] **Yasir Ali**, T. Manzoor, H. Yang, M. Mohasan, M. Abouhawwash, and Y. Xia, Fellow, IEEE, Artificial Intelligence in 5G+: Enhancing Networking, Channel Coding, and Secure Communications, *ACM Computing Surveys*. (Under review), (SCI, Impact Factor: **23.8**).

SJ[2] **Yasir Ali**, T. Manzoor, H. Yang, Y. Xia, Towards Efficient and Secure Cloud Control Systems: Advances, Challenges, and Future Directions, *Annual Reviews in Control (Elsevier)*. (Under review), (SCI, Impact Factor: **10.7**).

SJ[3] M. Mohasan, S. Zhou, M. Hamid, **Yasir Ali**, and M. Song, Numerical Investigation of Double Droplet Impacts: Effects of Liquid Film Thickness and Temperature on Crown and Jet Dynamics, *International Journal of Multiphase Flow*. (Under review), (SCI, Impact Factor: **3.8**).

SJ[4] A. Ali, Y. Xia, Fellow, IEEE, S. Sajid, T. Manzoor, **Yasir Ali**, and K. Jalil, Numerical Consistency Detection in

Mobile App Bug Reports Using Deep Image-Text Fusion, *Science China Information Sciences (Springer)*. (Under review), (SCI, Impact Factor: **7.6**).

Awards & Scholarships

2026.01 – 2026.12 — **National Natural Science Foundation of China (NSFC) Research Fund for International Young Scientists**, Secure funding for a one-year research project as a PI under the grant number W2533176.

2026.01 –2026.12 — **Beijing Natural Science Foundation (BJNSF) for International Scholars**, Secure funding for a one-year research project as a PI under the grant number IS25064.

2018.09 – 2019.07 — **Best Paper Award**, *Control Theory and Technology* Journal—recognition for the most outstanding research article published in the 2018–2019 volume.

2015.09 – 2023.07 — **Chinese Government Scholarship** for Master's & Doctoral Studies in Beijing—a competitive award that supports full tuition and living expenses.

2011.03 – 2012.04 — **Academic Excellence Award (Dell Laptop)**, Khyber Pakhtunkhwa Provincial Government —for achieving a cumulative 80% score across Bachelor's examinations.

Skills

Hardware & computer skills

Programming: C, C++, Embedded C, Python. **Numerical Analysis and Optimization Tools**: MATLAB (solvers: YALMIP, CasADi, OSQP), Octave. **Hardware**: Skilled in FPGA design and deployment using descriptive languages of VHDL and Verilog. **Tools for Instrumentation, Control, Data Acquisition, Test, and Measurement**: LabVIEW, Simulink. **Drafting & Productivity**: LaTeX, Microsoft Office, WPS, Inkscape. **Computer Aided Design Tool**: FreeCAD. **Operating Systems**: Windows, Ubuntu, MAC.

Languages Competencies

English (Excellent) | Urdu (Excellent) | Chinese (Fair Level) | Polish (Basic Level)

Interpersonal Competencies

- Hard-working with a solid motivation to succeed.
- Excellent writing and verbal communication skills.
- Comprehensive problem-solving abilities.
- Ability to identify goals and tasks to be accomplished and create a realistic timeline for completion.
- Able to work effectively with limited supervision.

References

Dr. Tayyab Manzoor
Faculty Member,
School of Automation & Electrical Engineering,
Zhongyuan University of Technology.
tayyab@zut.edu.cn

Dr. Tarik Hadibi
Research Scientist,
Zhengzhou Research Institute,
Beijing Institute of Technology.
tarikhadibi@bit.edu.cn

Dr. Muhammad Mohasan
Research Scientist,
Zhengzhou Research Institute,
Beijing Institute of Technology.
mohasan@bit.edu.cn

Dr. Kun Liu,
Associate Professor,
School of Automation,
Beijing Institute of Technology
kunliubit@bit.edu.cn

For more details, please contact through Email/WhatsApp/WeChat