

AHMAD S. AL-TAWAHA

Department of Electrical & Computer Engineering
Virginia Tech, Blacksburg, VA

Contact Information

atawaha@vt.edu
<https://github.com/Ahmad-Tawaha>
+1 (540) 200-7216

RESEARCH INTERESTS

- Learning Theory.
- Optimization.
- System identification and Linear control systems.
- Power Systems and Energy.

EDUCATION

Ph.D. Student, The Department of Electrical and Computer Engineering (Aug 2021-present)
Virginia Polytechnic Institute and State University, Blacksburg, VA
Advisor: Ming Jin

M.S., Mechanical Engineering–Mechatronics (July 2021)
Jordan University of Science and Technology, Irbid, Jordan
Thesis: Model Order Determination with Applications in System Identification, Image and Signal Processing
GPA: 4.2/4.4

B.Sc., Aeronautical Engineering (November 2016)
Jordan University of Science and Technology, Irbid, Jordan
GPA: 86.7%
Graduated top of class out of 40 students (1/40)

Main courses: Advanced Reinforcement Learning, Advanced Machine Learning, Trustworthy Machine Learning, Stochastic Process, Deep Reinforcement Learning, Probability and Random Processes, Signal and Image Processing, Automatic Control, Advanced Control Systems, Robotics, and Autonomous Mobile Robots.

PUBLICATIONS

Journal Papers:

- J1) **Al-Tawaha, A.**, K. F. Aljanaideh, A. Alshorman “Low Rank Approximation Using Singular-Values Noise Level Estimation ”, *International Journal of Control*, submitted.

Conference Papers:

- C1) Sel. Bilgehan, **Al-Tawaha. Ahmad**; Khattar, Vanshaj, Wang, Lu; Jia. Ruoxi, Jin. Ming, “Algorithm of thoughts: Enhancing exploration of ideas in large language models.” arXiv preprint, 2023.
- C2) **Al-Tawaha. Ahmad**, Jin, Ming “Does online gradient descent (and variants) still work with biased gradient and variance?”, *American Control Conference (ACC)*, 2024, submitted.
- C3) **Al-Tawaha. Ahmad**, Kaushik. H., Sel. B., Jia. R., and Jin. M, ”Decision-Focused Learning for Inverse Noncooperative Games: Generalization Bounds and Convergence Analysis.” *IFAC World Congress*. 2023.

- C4) Sel, B.; **Al-Tawaha. Ahmad**, Ding. Y. Jia. R, Ji. B, Lavaei. J, and Jin, M. "Learning-to-Learn to Guide Random Search: Derivative-Free Meta Blackbox Optimization on Manifold." *Learning for Dynamics & Control Conference (L4DC)* (oral presentation), 2023.
- C5) **Al-Tawaha. Ahmad**, K. F. Aljanaideh, A. Alshorman "A Singular Value Thresholding Algorithm for Order Estimation", *American Control Conference (ACC)*, 2021.

AWARDS

- Awarded a full scholarship from Jordan University of Science and Technology for graduate studies in Jordan (2018 – 2020).
- Awarded Jordan's Ministry of Education Scholarship for Undergraduate Studies in Jordan (2012 – 2016)

HONORS

- Graduated top of class out of 40 students, Aeronautical Engineering Department, Jordan University of Science and Technology, Irbid, Jordan (2016)

EXPERIENCE

- August 2021 – Present: Graduate Research Assistant, Electrical and Computer Engineering Department, Virginia Tech, Blacksburg, Virginia:
 - Developing efficient methods for solving interdisciplinary optimization, control, and machine learning problems that are motivated by real-world applications.

SKILLS

- Software: Python, Matlab and Simulink, Mathematica, L^AT_EX, ANSYS, Pro-Engineer, XFLR.
- Hardworking, devoted, and self-motivated
- Team participating and capable of interacting with a multinational environment.

REFEREES

- Professor Ming Jin
Electrical and Computer Engineering
Virginia Tech
Blacksburg, Virginia
Email: jinming@vt.edu
- Professor Ruoxi Jia
Electrical and Computer Engineering
Virginia Tech
Blacksburg, Virginia
Email: ruoxijia@vt.edu

- Professor Khaled F. Aljanaideh
Aeronautical Engineering Department
Jordan University of Science and Technology
Irbid, Jordan
Email: kfaljanaideh@just.edu.jo