Curriculum Vitae | Quan Lin

Personal Information

- Gender: Male
- Date of Birth: 30/06/1996
- Nationality: Chinese
- Email: quanlin@hust.edu.cn
- Address: School of Aerospace Engineering, Huazhong University of Science and Technology, 1037 Luoyu Road, 430074 Wuhan, China

Education

- Sep. 2019 – Present Huazhong University of Science and Technology, Wuhan, China
  Ph.D. candidate in Mechanical Engineering
- Sep. 2018 – July 2019 Huazhong University of Science and Technology, Wuhan, China
  M.E. candidate in Mechanical Engineering
- Sep. 2014 – July 2018 Zhengzhou University, Zhengzhou, China
  B.E. in Mechanical Engineering

Research Interests

Surrogate modeling, Bayesian optimization, robust design optimization, multi-objective optimization, multi-fidelity surrogate

Research Experiences

[1] Research on multi-input-output multi-fidelity surrogate model assisted robust design optimization method (The National Natural Science Foundation of China under Grant No. 51805179, team member)

- This project focuses on the robust design optimization (RDO) method assisted by a multi-input-output multi-fidelity surrogate model.
- A multi-fidelity multi-output (MFMO) surrogate modeling approach is developed, which can capture the latent correlations across multiple outputs.
- A sequential multi-fidelity surrogate-based RDO method is proposed to obtain robust solutions and relieve the computational burden.

[2] Research on multi-level multi-fidelity surrogate model assisted multi-objective robust design optimization method (The National Natural Science Foundation of China under Grant No. 52175231, team member)

- This project focuses on the multi-objective robust design optimization method assisted by the multi-level multi-fidelity surrogate model.
- A multi-fidelity multi-output Gaussian process model is developed for non-hierarchical low-fidelity data fusion.
- A multi-objective Bayesian optimization approach is proposed based on multi-fidelity multi-output metamodeling.

Publications

[1] **Lin, Q.**, Zhou, Q., Hu, J., Cheng, Y., & Hu, Z. (2022). A sequential sampling approach for multi-fidelity surrogate modeling-based robust design optimization. *Journal of Mechanical Design*, 144(11), 111703. (JCR Q1, IF 3.3) DOI: https://doi.org/10.1115/1.4054939

[2] **Lin, Q.**, Hu, J., Zhang, L., Jin, P., Cheng, Y., & Zhou, Q. (2022). Gradient-enhanced multi-output Gaussian process model for simulation-based engineering design. *AIAA Journal*, 60(1), 76-91. (JCR Q2, IF 2.5) DOI: https://doi.org/10.2514/1.J060728

[3] **Lin, Q.**, Hu, J., Zhou, Q., et al. (2021). Multi-output Gaussian process prediction for computationally expensive problems with multiple levels of fidelity. *Knowledge-Based Systems*, 227, 107151. (JCR Q1, IF 8.8) DOI: https://doi.org/10.1016/j.knosys.2021.107151

[4] **Lin, Q.**, Gong, L., Zhang, Y., et al. (2022). A probability of improvement-based multi-fidelity robust optimization approach for aerospace products design. *Aerospace Science and Technology*, 128, 107764. (JCR Q1, IF 5.6) DOI: https://doi.org/10.1016/j.ast.2022.107764

[5] **Lin, Q.**, Hu, D., Hu, J., Cheng, Y., & Zhou, Q. (2021). A screening-based gradient-enhanced Gaussian process regression model for multi-fidelity data fusion. *Advanced Engineering Informatics*, 50, 101437. (JCR Q1, IF 8.8) DOI: https://doi.org/10.1016/j.aei.2021.101437

[6] **Lin, Q.**, Qian, J., Cheng, Y., Zhou, Q., & Hu, J. (2022). A multi-output multi-fidelity Gaussian process model for non-hierarchical low-fidelity data fusion. *Knowledge-Based Systems*, 254, 109645. (JCR Q1, IF 8.8) DOI: https://doi.org/10.1016/j.knosys.2022.109645

[7] **Lin, Q.**, Zheng, A., Hu, J., Shu, L., & Zhou, Q. (2023). A multi-objective Bayesian optimization approach based on variable-fidelity multi-output metamodeling. *Structural and Multidisciplinary Optimization*, 66, 100. (JCR Q1, IF 3.9) DOI: https://doi.org/10.1007/s00158-023-03536-6

[8] Wu, Y., **Lin, Q.**, Zhou, Q., Hu, J., Wang, S., & Peng, Y. (2021). An adaptive space preselection method for the multi-fidelity global optimization. *Aerospace Science and Technology*, 113, 106728. (JCR Q1, IF 5.6) DOI: https://doi.org/10.1016/j.ast.2021.106728

[9] Hu, J., Zhang, L., **Lin, Q.**, et al. (2021). A conservative multi-fidelity surrogate model-based robust optimization method for simulation-based optimization. *Structural and Multidisciplinary Optimization*, 64, 2525. (JCR Q1, IF 3.9) DOI: https://doi.org/10.1007/s00158-021-03007-w

[10] Hu, J., Peng, Y., **Lin, Q.**, Liu, H., & Zhou, Q. (2022). An ensemble weighted average conservative multi-fidelity surrogate modeling method for engineering optimization. *Engineering with Computers*, 38, 2221. (JCR Q1, IF 8.7) DOI: https://doi.org/10.1007/s00366-020-01203-8

Academic Activities

[1] The 14th World Congress of Structural and Multidisciplinary Optimization, June 13-18, 2021. (Oral presentation)

[2] The 15th World Congress of Structural and Multidisciplinary Optimization, June 5-9, 2023. (Oral presentation)

[3] Peer review: Knowledge-Based Systems

Honors and Awards

- **National scholarship**, Huazhong University of Science and Technology (HUST), 2022, top 1% students in HUST
- **Scholarship for Outstanding Doctoral Students**, HUST, 2022
- **First Prize Scholarship**, HUST, (three times, 2019~2021)
- **Outstanding Graduates**, Zhengzhou University, 2018
- **Excellent Graduation Thesis**, Zhengzhou University (ZZU), 2018, top 5% students in ZZU
- **Merit Student**, Zhengzhou University, 2017
- **National Encouragement Scholarship**, Zhengzhou University, 2017

Strengths and skills

- Proficient in programming software MATLAB
- Proficient in Design and Data visualization software (Origin, SolidWorks, Visio, Microsoft Office)
- Engineering simulation software (ANSYS, SU2)
- Teamwork spirit, passion, diligence, and perseverance