華中科技大學
HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY

Mingyang Bao

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Education Background

Huazhong University of Science and Technology(HUST) 2021 Sep. - 2025 Jun.

▸ **Bachelor of Engineering** **GPA:** 4.3/5
College: School of Electrical and Electronic Engineering(SEEE)
Major: Electrical and Electronic Engineering
Courses: Electrical Machinery Theory, Electric Drive and Control Systems

Skills

English: CET-6

Python Nodejs Javascript Golang C/C++
Matlab Femm Ansys Photoshop Illustrator

Research Experience

Hi-Motor Series 2022 Mar. - now

▸ **Leader/Fullstack Developer**

- Lead a 15-undergraduate team for software development, related research and business collaboration.
- Develop *hi-motor designer* for design and optimization of high-efficiency motors, especially synchronous reluctance motors based on Python and Femm.
- Support intelligent selection of high-efficiency motors with motor database and knowledge sharing platform based on MongoDB, Nodejs and Golang.
- achieve 2 papers, 2 patents and register 2 software copyrights totally.

Design and Optimization of Flux-Barrier End shape in Synchronous Reluctance Motor Based on B-spines 2023 Aug. - 2023 Sep.

▸ **Primary Person**

- Propose a novel design method of flux-barrier end shape based on B-spline curves.
- achieve an effective electro-mechanical co-optimization workflow with sensitivity analysis, surrogate model, intelligent algorithms and multi-level optimization.

Summer Internship, Bosch (China) Investment Ltd. 2023 Jul. - 2023 Aug.

▸ **Fullstack Developer** CR/RMD-AP, Shanghai, China

- Set up an optimization workflow for switched reluctance motors based on Ansys Maxwell and optiSLang.
- Develop tools for acquisition and analysis of automobile sales data in Python.
- Provide technical support for colleagues on project management, data analysis and artificial intelligence.

Honors and Awards

▸ **Sieyuan Scholarship** (8/412) ▸ **Self-improvement Student** (7/412)

IEEE Student Conference on Electric Machines and Systems 2023 Dec. 7 - 9

▸ **Best Presenter Award** Huzhou, China

Extracurricular Activities

Wuhan Voltworks Science and Technology Ltd. 2024 Jan. - now

▸ **CEO/Chairman** Leadership

- Promote the development and application of *Hi-Motor Series*.

Association for Mathematical Modeling, HUST 2022 Oct. - 2023 Sep.

▸ **Vice President** Mathematical Modeling/Event Planing

- Organize school-wide and cross-school lectures for contests like MCM/ICM.
- Participate in textbook and video course development in mathematical modeling.

Publicity Department, Student Union of SEEE, HUST 2022 Sep. - 2023 Aug.

▸ **Minister** Writing/Graphic Design

- Generate positive publicity and media coverage of students and major events, such as the 70th anniversary celebration.

Publications

J Journal C Conference P Patent S Software Copyright

C **M. Bao** *et. al.*, "Novel Design Method of Flux-Barrier End Shape of Synchronous Reluctance Motor Based on B-spline Curves", *2023 IEEE 6th Student Conference on Electric Machines and Systems (SCEMS)*, Huzhou, China, pp. 1--8, Dec. 2023, doi: https://doi.org/10.1109/SCEMS60579.2023.10379317

C T. He, Y. Wang, **M. Bao**, J. Li, S. Feng and R. Qu, "Design and Validation of a High-Efficiency Synchronous Reluctance Motor", *2023 IEEE 26th International Conference on Electric Machines and Systems (ICEMS)*, Zhuhai, China, pp. 1--8, Nov. 2023, doi: https://doi.org/10.1109/ICEMS59686.2023.10345091

P Y. Wang, J. Li, X. Li, **M. Bao** and R. Qu, "Rotor with Adjacent Electrode Mirror Image of Synchronous Reluctance Motor and Permanent Magnet Assisted Synchronous Reluctance Motor", China Patent, Publication, No. CN116722678A, Sep. 2023

P Y. Wang, X. Li, J. Li, **M. Bao** and R. Qu, "A Permanent Magnet Assisted Synchronous Reluctance Motor of Low Torque Ripple", China Patent, Publication, No. CN116505683B, Apr. 2023

S **M. Bao**, S. Lu and Y. Wang, "Hi-Motor Hub: intelligent Selection Tool for High-efficiency Motors V1.0", China Software Copyright, Publication, No. 2023SR1417580, Nov. 2023

S **M. Bao**, J. Li, Y. Chen and Y. Wang, "Hi-Motor Designer: intelligent Software for Design and Optimization of Synchronous Reluctance Motor V1.0", China Software Copyright, Publication, No. 2023SR0446741, Apr. 2023

Referees

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▸ Ronghai Qu (supervisor), Professor of Huazhong University of Science and Technology, ronghaiqu@hust.edu.cn