

# Guo Jingze

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## EDUCATION

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| <b>Xi'an University of Architecture and Technology</b>                                                             | <b>09/2018 - 06/2022</b> |
| Bachelor of Automotive Engineering in Mechanical                                                                   | Xi'an, China             |
| <b>Major Courses:</b> Automobile Theory, Structure of Automobile, Mechanical Design, Principles of Mechanics, etc. |                          |
| <b>Southwest Jiaotong University (Project:211)</b>                                                                 | <b>09/2024 - 06/2027</b> |
| Master of Mechanical Engineering                                                                                   | Chengdu, China           |
| <b>Major Courses:</b> New Energy Power and Technology, Vibration Theory and Its Application etc.                   |                          |

## RESEARCH & PROJECTS

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| <b>Core Member, Optimal Design of 160 km/h Power-Concentrated Passenger Car Body</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>09/2024 - 05/2026</b> |
| Chengdu, China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |
| <ul style="list-style-type: none"><li>Key Process : Develop plate-shell and plate-beam models of the rail vehicle car body; integrate Codex with a MATLAB plugin hosted on GitHub to automate the generation and replacement of loading scripts for different load cases; analyze the static and dynamic performance of the car body using HYPERMESH; conduct rigid-flexible coupled dynamic analyses under train operating conditions through Abaqus-SIMPACT co-simulation; perform topology optimization and develop surrogate models for parametric design optimization; develop optimization algorithms.</li><li>Project Outcomes : The first-order rhombic modal frequency of the complete car body rose by <b>32.18%</b>, while all remaining performance parameters satisfied the design criteria. Additionally, the vehicle body mass was reduced by <b>652 kg</b>, achieving a weight reduction of <b>4.67%</b>.</li></ul> |                          |
| <b>Core Member, Lightweight Design of a GEELY Automotive Steering Knuckle Using Steel Instead of Aluminum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>09/2024- 11/2024</b>  |
| Chengdu, China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |
| <ul style="list-style-type: none"><li>Key Responsibilities : Established load case scripts for diverse operating conditions, carried out performance simulations, employed HYPERMESH for pre-processing and topology optimization, and generated the final optimized steering knuckle model in UG.</li><li>Project Outcomes : Utilized Codex to accelerate the writing of simulation scripts and resolve complex engineering issues. The optimized model weighs <b>4.7 kg</b>, which is almost identical to the original aluminum component in mass, while its stiffness, strength, and modal frequencies all meet the enterprise requirements.</li></ul>                                                                                                                                                                                                                                                                           |                          |
| <b>Leader, Design and Optimization of a Personal Aerial Vehicle – Motorcycle-Style</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>11/2025 - 05/2026</b> |
| Chengdu, China                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |
| <ul style="list-style-type: none"><li>Key Responsibilities : Designed the frame of a low-altitude hovering flying motorcycle (including fuel tank and engine mounting positions), carried out lightweight design of the frame, and performed static and dynamic performance verification on the optimized structure.</li><li>Project Outcomes : Conducted four stage review presentations, and achieved a <b>27 kg (19%)</b> weight reduction of the frame while maintaining the original static performance.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                             |                          |

## INTERNSHIP EXPERIENCE

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| <b>Volvo Car Asia Pacific Headquarters</b>                                                                                                                                                                                                                                                                                                                    | <b>07/2025 - 11/2025</b> |
| Shanghai, China                                                                                                                                                                                                                                                                                                                                               |                          |
| <ul style="list-style-type: none"><li>Key Responsibilities : Provide lightweight design solutions for chassis components of the Volvo ES90 and carry out strength and stiffness verification for selected chassis parts.</li><li>Key Contributions : Performed static strength and modal frequency calculation and verification, developed topology</li></ul> |                          |

optimization models with HYPERMESH, carried out strength verification on the optimized model, and composed the project report. Supported technical data exchange between Shanghai and Sweden-based engineering teams, ensuring accurate delivery of simulation results and design revisions.

- Key Achievements : Provided a complete subframe design scheme estimated to reduce weight by over **4 kg (12%+** weight reduction), completed strength and stiffness verification for the subframe, H-arm, steering knuckle, and tie rod. Prepared and presented technical reports in English to Gothenburg headquarters engineers on 6 occasions, and delivered over 10 progress updates to cross-border stakeholders, maintaining clear communication across regions.

**HONORS & AWARDS**

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| • The Third Prize Scholarship                                                                                      | <b>09/2024</b> |
| • The Third Prize Scholarship                                                                                      | <b>09/2025</b> |
| • The Third Prize of China International College Students’ Innovation Competition at Southwest Jiaotong University | <b>10/2025</b> |

**SKILLS & HOBBIES**

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- **Languages:** Mandarin (Native), English (CET6)
- **AI Skills:** Proficient in utilizing AI models such as Codex and ChatGPT to assist in writing simulation scripts and solving practical engineering problems.
- **Personal capability:** Possess strong teamwork and leadership skills. Proficient in communication. Make clear plan.
- **Engineering Software:** HYPERWORKS, ABAQUS, UG, SOLIDWORKS, CATIA, MATLAB, Isight
- **Hobbies:** Solo travel, Hiking, Photograph, Play video games, Work out.