Qian Sun

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Techinische Universität Bergakademie Freiberg Master of Science 1991 September
Deutschland •Freiberg

Vehicle Engineering (Material and Structure Direction) graduate student with good foundations in physics, mathematics, and materials science. Proficient in structural modeling, analysis and Modal-analysis, enthusiastic about computer and network technologies, proficient in using Linux, SSH, Git and other common platforms and tools. Proficient in scientific computing software, Matlab and Mathematica programming, skilled in finite element analysis software such as Ansys.

Competences & Languages

Area of expertise	New-energy vehicles, lightweight of automobile, material handling and structure analysis, modal-analysis, MCU system design.
Programming	**Matlab**®, Mathematica®, R, Python, **C**.
Tools	Ansys® Products, SSH, Git, LaTeX, Microsoft® **Office**, Freescale®**CodeWarrior**, IAR®Embedded Workbench.
Languages	**Germany** — conversant —**TestDaf** 4 ×4; **English** — reading & writing (good); listening & speaking (good).

Education

present	Werkstoffwissenschaft und Werkstofftechnologie, **Technische Universität Bergakademie Freiberg**
Oct. 2016	Master. (candidate; to graduate in the middle of 2020) in Automotive Construction: Materials and Components
June 2014	School of Mechanical and Automotive Engineering, **Liaocheng University**
September 2010	Bachelor's Degree in Vehicle engineering

Skills

- ***Vehicle Engineering***:
  Automotive Construction and Theory; New Energy Vehicle Technology, **Automotive Lightweight Technology**.
- ***Materials Science***:
  Metal Material Forming and Processing, **Metal Casting and High Temperature Heat Treatment Technology**, Biomimetic Materials.
- ***Mechanics and kinematics***:
  Structural analysis and simulation, vibration analysis and simulation, **modal analysis**.
- ***Computer Science***:
  Design and Debugging of MCU Systems, Design and Debugging of Control Systems.
- ***Other***:
  Optimized design, neural network, big data analysis.

</> Personal Projects

- **Two-wheeled balance car**:(Freescale®CodeWarrior, Freescale®S12X, CCD)
  Two-wheeled balance car designed and built based on Freescale Smart-Car-Cup requirements with automatic track recognition and control.
- **Analysis of multiple algorithms for TSP problems**:(Matlab®)
  Four common optimization algorithms (genetic, ant colony, immune, taboo algorithm) were used to analyze the TSP problem, and the advantages and disadvantages of various algorithms and their application value were compared.
- **Analysis of common elastic vibration systems**:(Matlab®)
  Analysis of the undamped vibration, the damped vibration, the time domain characteristics of the Maxwell model, the response characteristics after excitation. And the corresponding images are generated.
- **Projektarbeit**: (Matlab® , Mathematica® , Ansys® , LaTeX)
  Modalanalyse mit Hilfe der Finite-Elemente-Methode (Modalanalysis with the Finite-Element-Method). The axial and bending vibrations of the beams and the bending vibration of the plates were modally analyzed using Matlab® and Ansys® , and modal shapes were generated.