# Resume
# Shengzhi Wu

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## Education

**University of Science and Technology of China (USTC)**, Anhui, China        Aug. 2017 – Jul. 2021

*B.S.* in Mathematics and Applied Mathematics, GPA:3.33/4.3, GPA (CS Courses) : 3.7/4.3

Coursework: Differential Equations, Quantum Mechanics, Computer Programming, Data Structures and Database, Graph Theory, Functional Analysis, Probability Theory, Topology

## Research Experiences

**School of Mathematical Sciences**, USTC        Jul. 2021 – Present

*Research Assistant*   Professor: Wuqing Ning

- Introduced a new calculation method for searching periodic solutions of N-body problems.
- Introduced a form-finding method (based on Cayley graph) for tensegrities with symmetry.
- Designed shear-bend translating metamaterials, which are expected to be used in soft robots and smart clothing.
- Developed an audio generation software system, named Audio Creator, that can be used for producing sound effects and acoustic research.

**CAS Key Laboratory of Microscale Magnetic Resonance**, USTC        Dec. 2021 – Present

*Research Intern (Part Time)*   Professor: Dong Liu

- Developed an economical measure system (costing as low as $10) and an effective algorithm in the field of electrical impedance tomography (EIT) and accomplished real-time (10 Hz) image reconstruction. The system has potential to be developed into a wearable device.
- Developed a python package, for EIT calculation and research, which contains advanced mesh generation algorithm and efficient inversion methods. It is a very meaningful contribution to the community. The package is planned to release in the near future.
- Made an algorithmic progress in Inversion Algorithm of Lunar Magnetic Dipole.
- Proposed a pioneering design of completely magnetic computer architecture, which consists of only rotatable magnetic dipoles. The system has application prospects in the field of quantum computing.
- Carried out a pioneering research on neural networks with adaptive depth based on Poisson distribution.

## Publications

- Simple, Fast and Flexible Numerical Methods to Obtain Symmetric Periodic Solutions of the N-Body Problem (currently under review)
  Journal: Journal of Computational and Applied Mathematics

## Skills

- Programming Languages: Java, Python, JavaScript, Wolfram language (Mathematica), C, C# and WebGL
- Development: desktop applications (based on Electron etc.), Android, Web and embedded system
- CG / CAD: Photoshop, Grasshopper, Blender, Unity 3D, Houdini, Substance Designer