Yue Wu 吴越

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EDUCATION

University of Science and Technology of China (USTC) --- School of the Gifted Young   Hefei, China
Bachelor of Science in Information and Computational Science (expected)   *Sep. 2019 - Jul. 2023*
Overall GPA: 3.98 / 4.3 (Ranking **1st** out of 39, 2019 fall - present)

RESEARCH INTERESTS

- **High order numerical methods for PDEs**: discontinuous Galerkin, finite difference/volume WENO, spectral method
- **Scientific computing**: parallel solvers, efficient algorithms

RESEARCH EXPERIENCE

Numerical Simulation of Plasma Equilibrium Evolution in Nuclear Fusion   Hefei, China
Supervised by Professor Mengping Zhang and Yan Jiang at USTC   *Jun. 2021 - May. 2022*
- Developed a parallel hybrid finite difference-pseudo spectral code for RMHD in toroidal geometry
- Performed long-time simulation of resistive tearing mode instability in Tokamak, with a focus on the logarithmic growth rate of kinetic energy, mode structure, and three distinct evolution stages
- Checked the results with researchers from the Institute of Plasma Physics, Chinese Academy of Science, and against results from existing open-source code
- Discussed the methodology and results with Prof. Chi-Wang Shu from Brown University
- Surveyed and implemented DG schemes for controlling global divergence of the magnetic field in ideal MHD

Positivity-Preserving Conservative Low Rank Methods for Vlasov Dynamics   Online
Supervised by Professor Xiangxiong Zhang at Purdue University   *June. 2022 - Aug. 2022*
- Developed a low rank approximation algorithm with positivity preservation and orthogonality constraints via optimization
- Use the algorithm for cost-efficient Vlasov dynamics simulation

TEACHING EXPERIENCE

- TA, Computational Methods B, USTC (instructor: Prof. Jingrun Chen)   *Spring 2022*

HONORS AND AWARDS

- National Scholarship for Undergraduate Students, 2021 (Top 3%)   USTC, Dec. 2021
- National Scholarship for Undergraduate Students, 2020 (Top 3%)   USTC, Dec. 2020
- Promotional ambassador for Wuxi as an outstanding student representative   Wuxi, Aug. 2020
- Third Prize for Freshman Scholarship   USTC, Sep. 2019

SELECTED COURSEWORK

- **Math:** Real Analysis, Functional Analysis, Differential Equations I/II (undergraduate/graduate)
- **Numerics:** Numerical Analysis, Numerical Algebra, Numerical PDE (graduate), Finite Element Methods (graduate)
- **Programming:** Data Structure and Database, Foundations of Algorithms

TECHNICAL PROFICIENCIES

- **Programming Languages:** C / C++ (3 yrs), Fortran (1 yrs), Matlab (2 yrs)
- **Technical Skills:** MPI, OpenMP, LaTeX, Mathematica
- **Languages:** Mandarin Chinese (Native), English (Fluent)

STANDARDIZED TESTS

- **TOEFL iBT:** 106 (R: 28, L: 27, S: 25, W: 26)
- **GRE Subject (Mathematics):** 970 (97%)