Yue WU 吴越

Email: pilotjohnwu@mail.ustc.edu.cn   Website: https://yuewu2002.github.io/
Add.: Rm. 508, Bldg. 2, USTC Mid Campus, 373 Huangshan Rd., Hefei, Anhui, China, 230022

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 43, 2019 fall -- 2022 summer)

RESEARCH INTERESTS

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

RESEARCH EXPERIENCE

Numerical Simulation of Plasma Equilibrium Evolution in Nuclear Fusion   Hefei, China
Supervised by Prof. Mengping Zhang at USTC   *Jun. 2021 -- May. 2022*
- Developed a parallel hybrid finite difference-pseudo spectral code for resistive MHD in toroidal geometry
- Performed long-time simulation of resistive tearing mode instability in tokamaks, 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 those from existing open-source codes
- Discussed the methodology and results with Prof. Chi-Wang Shu from Brown University
- Surveyed and implemented DG schemes for controlling divergence of the magnetic field in ideal MHD

Positivity-Preserving Conservative Low Rank Methods for Vlasov Dynamics   Online
Supervised by Prof. Xiangxiong Zhang at Purdue University   *June. 2022 -- Aug. 2022*
- Developed a low-rank correction algorithm with positivity preservation and orthogonality constraints via optimization
- Used the algorithm to post-process the data generated from the dynamic low-rank solver

TEACHING EXPERIENCE

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

HONORS AND AWARDS

- China National Scholarship (Top 3%)   Dec. 2021
- China National Scholarship (Top 3%)   Dec. 2020
- Winner's Prize, the 13ᵗʰ S.-T. Yau College Student Mathematics Contest, Analysis and PDEs track   Aug. 2022
- Second Prize, the 13ᵗʰ China National Mathematics Competition for College Students   Dec. 2021
- Promotional Ambassador for Wuxi as an Outstanding Student Representative   Aug. 2020

SELECTED COURSEWORK

- **Math:** Real Analysis, Functional Analysis, Differential Equations I/II (undergraduate/graduate)
- **Numerics:** Numerical Analysis, Numerical PDE (graduate), FEM (graduate), CFD (graduate; audit)
- **Programming:** Data Structure and Database, Foundations of Algorithms, Python for Scientific Computing

TECHNICAL PROFICIENCIES

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

STANDARDIZED TESTS

- **TOEFL iBT:** 106 (R: 28, L: 27, S: 25, W: 26)
- **GRE General:** 327 (V: 157, Q: 170, W: 3.5)
- **GRE Subject (Mathematics):** 970 (97%)