Wentao Yang

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EDUCATION

University of Illinois Urbana–Champaign   **Champaign, IL**
BS in Computer Science, College of Engineering GPA: 3.9/4.0   *Sep 2017 - Present*

WORK EXPERIENCE

Research Assistant   **Laboratory for Parallel Numerical Algorithms**
UIUC, IL   *May 2018 – Present*
- Developing a library for Tensor Train Format computation and DMRG in python.
- Comparing different tensor decomposition algorithms.
- Developing parallel version of algorithms using Cyclops.

PROJECTS

Tensor Decomposition library   *May 2018 – Present*
- Working in Laboratory for Parallel Numerical Algorithms supervised by Professor Edgar Solomonik.
- Developing a python library for tensor train format decomposition, MPS/MPO computation and DMRG from scratch based on Numpy and Cyclops.
- Implemented various techniques to optimize performance of current DMRG scheme[1][2] and the library can achieve state of art results.

CS425 Distributed Systems Project   *Sep 2019 – Present*
- Building a distributed system with golang from scratch.

CS419 Light Tracing Renderer   *Aug 2018 – Dec 2018*
- Developing a light tracer with C++ to do light tracing and rendering from scratch.
- Based on *Ray Tracing From Ground Up(Suffern)* and *High Quality Rendering using Ray Tracing and Photon Mapping(Jensen)*.

CS556 Project on BDDC Domain Decomposition Algorithms   *Aug 2018 – Dec 2018*
- A study and review of the development of BDDC Domain Decomposition Algorithms[3].

CS427 iTrust project   *Sep 2017 – Dec 2017*
- Worked as a full-stack developer in software engineering course project.
- Maintained and developed a software for medical data management.

AWARDS

- Dean's list(2018)
- Illinois State Scholar(2017)
- National AP Scholar(2017)
- USACO Gold Division(2016)

ADDITIONAL

- Relevant Coursework: CS225 Data Structures, CS233 Computer Architecture, CS241 System Programming, CS374 Algorithms and Models of Computation, CS418 Interactive Computer Graphics, CS419 Production Computer Graphics, CS420 Parallel Programming, CS421 Programming Language and Compiler, CS427 Software Engineering I, CS446 Machine Learning, CS450 Numerical Analysis, CS461 Computer Security I, CS498 Internet of Things, CS556 Iterative and Multigrid Methods, ECE470 Introduction to Robotics, MATH447 Real Variables, MATH461 Probability Theory

- Coursework in Progress: CS425 Distributed Systems, CS426 Compiler Construction, CS466 Introduction to Bioinformatics, CS598 Deep Learning Theory

- Others Computer Science Skills: Computer Vision, Natural Language Processing, Database, Web Development.

- Others Math Skills: Mathematical Analysis, Real Analysis, Topology, Differential Geometry, Convex Optimization, Abstract Algebra, Informatioin Theory.

CITATIONS

- [1]$https://epubs.siam.org/doi/10.1137/090752286$
- [2]$https://epubs.siam.org/doi/10.1137/100818893$
- [3]$https://pdfs.semanticscholar.org/3fe6/ed314f4f6272ff672ed1a576a310c40facd6.pdf$