Honghao(Jack) Yang

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Education

BS **Washington University in St. Louis**, Major in Computer Science & Minor in Statistics — August 2023 – Now

- **GPA:** 3.99/4.0
- **Coursework:** Computer System, Real-time System, High Performance System, Scientifc Computing, Networks Science
- **Expected Graduation Date:** May 2026

Research

Stream Based Supercomputing Lab, Undergraduate Researcher — St Louis, MO, January 2025 – Now

- Investigate the applicability of Intel oneTBB (Threading Building Blocks) for stream pipeline simulation
- Conduct performance evaluations of individual pipeline stages using diverse benchmarking methodologies such as C++ Library timer, Google Benchmark, and Nanobench-mark
- Analyze and visualized performance data to characterize the distribution of pipeline latency
- Design CUDA project code for Localization stage and test on its performance on the new architecture **(Current Project)**

Independent Study in Statistics, Undergraduate Researcher — St Louis, MO, September 2025 – Now

- Learn the advanced topics in U-statistics and Bootstrapping sampling
- Conduct exploration of different network generative models including Kth Nearest Neighbor, ER Random Graph, Random Geometric Graph
- Investigate the asymptotic behavior of those models in triangle counts in a sparse setting
- Design experiments to explore the subgraph count behavior of KNN model with fixed k in 1D and 2D setting **(Current Project)**

Publications

Performance Modeling and Improvements on the GRB Source Localization Streaming Pipeline Aboard the Antarctic Demonstrator for the Advanced Particle-Astrophysics Telescope (ADAPT) — July 2025 (ICRC 2025)

Ye Htet, Marion Sudvarg, ***Honghao Yang***, Jeremy Buhler, Roger Chamberlain, Wenlei Chen, James Buckley
10.22323/1.501.0679

Modeling and Optimizing Real-Time Telescope Interaction for Multi-wavelength Observation of Gamma-ray Bursts — November 2025 (SC 2025)

Ye Htet, Marion Sudvarg, ***Honghao Yang***, Jeremy Buhler, Roger Chamberlain, James Buckley
10.1145/3731599.3767475

Experience

StudentLife, Senior Web Master — St Louis, MO, January 2025 – Now

- Developed and deployed website features, including a puzzle page pack function,

and collaborated with team members to design and implement new themes
- Maintained website security and performed weekly updates for the Studentlife website
- Designed and published new web pages to support institutional needs such as marketing and promotional initiatives
- Trained and mentored new staff members to ensure continuity and sustainability of the web team

Google Developer Team, Data Analyst — St Louis, MO
September 2025 – Now

- Work for FloraSense Incorpration to deploy new feature on the APP
- Connect different API ends to collect data logs in different clients
- Create a lightweight Customer Relationship Management system
- Build integrated Admin page to manage and visualize data

Washington University in St. Louis, Teaching Assistant — St Louis, MO
January 2024 – Now

- Supported course instruction through grading of assignments, projects, and examinations
- Conducted regular office hours to provide individualized guidance and clarify course concepts
- Facilitated in-class discussions and group activities to enhance student engagement and learning outcomes
- Assisted in course administration and coordination to ensure smooth delivery of instructional activities

InitialView, Marketing Data Analyst — Remote
May 2023 – August 2023

- Work closely with the marketing team and analyze the data for further advertisement
- Gain experience in core Customer Support areas through establishing relationships with clients and identifying needs and solutions
- Share my InitialView experience with peers and gather insightful feedback

Awards

Washington University in St. Louis, Dean's List — St Louis, MO
Fall 2023- Fall 2025

- Dean's List (2023–2025) in recognition of sustained academic excellence in a rigorous Computer Science & Engineering curriculum.

WashU Department of CSE, Research Experience for Undergraduates — St Louis, MO
May 2025 - August 2025

- Conducted research in high-performance stream processing for the ADAPT cosmic-ray observation mission under Prof. Roger Chamberlain and Dr. Ye Htet.
- Implemented and evaluated performance of parallel stream-pipeline architectures using different benchmark libraries to improve scalability and throughput.
- Contributed performance analysis and poster design for a submission to the 2025 International Cosmic Ray Conference and 2025 SC Conference.

WashU Department of SDS, Summer Research Program Awardee — St Louis, MO
Awardee

- Selected for the competitive Summer Research Program in Statistics & Data Science (offer declined due to scheduling conflicts).

Technological Skills

Programming Languages: C++, C, C#, Java, JavaScript, R, Python, SML, Racket, Ruby
Frameworks, Libraries & Platforms: Google Benchmark, OpenMP, oneTBB, sklearn, Docker, Kubernetes, AWS, Google Cloud, Prometheus and Grafana