Guanzhou Hu

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EDUCATION

ShanghaiTech University *Sep 2016 - Jul 2020*

Undergraduate; Computer Science and Technology *Shanghai, China*

- GPA: 3.9 / 4.0 (Top 1)
- Honors: President's Scholarship (2017, 2018), Overseas Scholarship (2017), Outstanding Student (2016, 2017, 2018)
- Relevant Coursework: Computer Architecture III (graduate, A+), Compilers (A+), Parallel Computing (A+)

Massachusetts Institute of Technology *Sep 2019 - Dec 2019*

International Special Student; Computer Science *Cambridge, MA, United States*

- Relevant Coursework: Computer Networks, Artificial Intelligence

University of California, Los Angeles *Jul 2019 - Sep 2019*

CSST Summer Research Intern with Prof. Harry Xu *Los Angeles, CA, United States*

- Honors: CSST Scholarship (2019)

University of Padova *Aug 2018 - Oct 2018*

Cross-disciplinary Program across Informatics, Fundamental Sciences and Arts *Padua, Italy*

- GPA: 4.0 / 4.0

University of California, Berkeley *Jul 2017 - Sep 2017*

Summer Program on English Communication and Conflict Resolution *Berkeley, CA, United States*

- GPA: 4.0 / 4.0

RESEARCH PROJECTS

Affordable AI: Cheap & Scalable Graph Convolutional Network Computation Framework with the Aid of Serverless (Lambda) Computing *Jul 2019 - Sep 2019*

Research Intern; University of California, Los Angeles, AnalySys Group

- Integrated new and emerging serverless computing techniques into traditional graph computing, to build an affordable and highly-scalable Graph Convolutional Networks (GCNs) computing platform without expensive dedicated GPUs.
- Implemented the first workable prototype combining ASPIRE graph computing framework with AWS Lambdas. Runnable over full GCN epochs, and achieved ?x performance improvement and ?x scalability.
- Future direction is to provide a general interface between the communication part and tensor part, while for the tensor part users can choose to use dedicated GPUs if affordable, or use pay-by-usage serverless services to cheaply scale up.

NcTrace: Optimized Trace Data Storage with netCDF Format *Mar 2019 - Aug 2019*

Leader of project team; ShanghaiTech University

- Used netCDF I/O library to optimize the storage of Comma Separated Values (CSV) trace data. Introduced the "*Dimension Packing*" storage model which reduces file size, meanwhile accelerates users' analysis tasks.
- Tested with Google cluster traces, and achieved 7:1 size reduction with 2 orders of magnitude acceleration on reading.

Active I/O: High Performance Parallel Data Indexing Storage System *Jan 2019 - Aug 2019*

Research Assistant; ShanghaiTech University, L.I.O.N Group

- Designed a high-performance, parallel file system named RosFS, aiming at highly-structured data format used by various applications in different fields. It actively classifies large-scale tagged data, gathers data under the same topic, and saves subsequent opening and reading time markedly.
- The first storage system practice on the idea of "*Content Locality*" discovered in modern structured data formats.
- Tested with rosbag files, and achieved 6.5x performance improvement on opening and at least 1.4x on reading.

pREFA: presentation tool for Regular Expressions and Finite Automatons *Sep 2018 - Jan 2019*

Leader of project team; ShanghaiTech University

- Designed a presentation tool for Regular Expressions (RE) and Finite Automatons (FA) as a Python library which mainly aims at GUI demonstration. Adopted the "*Kamada-Kawai*" algorithm to perform automatic human-readable FA graph generation.

WORKING EXPERIENCE

Teaching Assistant in Computer Architecture *Feb 2019 - Apr 2019*

School of Information Science and Technology (SIST); ShanghaiTech University

- Arranged office hours, lab sessions, discussion lectures, and designed parallel computing homework and projects.

Teaching Assistant in Operating Systems *Sep 2018 - Jan 2019*

School of Information Science and Technology (SIST); ShanghaiTech University

- Guided course project works on the *PintOS* system from Stanford CS140.
- Gave tutorial and recitation lectures, and maintained the course web-page.

Teaching Assistant in Discrete Mathematics *Mar 2018 - Jul 2018*

School of Information Science and Technology (SIST); ShanghaiTech University

- Arranged office hours and assisted homework posting and correction.

PATENTS

- Shu, Y. and Hu, G. 2019. *A Storage System Management Policy Based on Data Content Locality*. CN. Patent Application xxxxxxxx, filed in June 2019. Patent Pending.

AWARDS

- Second Class Prize, ASC'19 Supercomputing Cluster Competition (Team Leader) *Mar 2019*
- SIST Outstanding Teaching Assistant Award of Year 2018 *Jan 2019*
- Meritorious Winner, MCM/ICM'18 Mathematical Contest in Modeling *Apr 2018*
- Outstanding Volunteer Award, Global Artificial Intelligence Hackathon *Jun 2017*

MISCELLANEOUS

- **Skills:** System Programming, C/C++, Python, Rust, Linux Servers, MIPS
- **Languages:** English (Fluent), Chinese (Native)