# Guanzhou Hu

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## EDUCATION

**ShanghaiTech University**                                               *Sep 2016 - Jul 2020*
*Candidate for B.E., Computer Science and Technology*                        *Shanghai, China*

- GPA: 3.9 / 4.0 (rank 2 / 183)
- Honors: Dean's Scholarship (2019), President's Scholarship (2017, 2018), Outstanding Student (2017, 2018)
- Relevant coursework: Computer Architecture III, Compilers, Parallel Computing

**Massachusetts Institute of Technology**                                  *Sep 2019 - Jun 2020*
*Undergraduate Special Student, Computer Science*                         *Cambridge, MA, USA*

- Relevant coursework: Distributed Systems Engineering, Computer Networks, Computer Systems Security

## RESEARCH EXPERIENCE

**Affordable AI: Cost-Efficient & Scalable Graph Convolutional Networks Computing**     *Jul 2019 - Oct 2019*
**Framework with the Aid of Serverless (Lambda) Computing**
*CSST Research Intern, University of California, Los Angeles, with Prof. Harry Xu*     *Los Angeles, CA, USA*

- Integrated new and emerging *serverless computing* techniques into traditional graph computing to build an affordable, efficient, and highly-scalable graph convolutional networks (GCNs) computing platform without expensive dedicated GPUs.
- Implemented the first workable prototype with AWS Lambdas service, and reached linear scalability and 100% cost-efficiency.

**NcTrace: Optimized Trace Data Storage with the netCDF Format**                  *Mar 2019 - Aug 2019*
*Leader of project team, ShanghaiTech University, L.I.O.N group, with Prof. Shu Yin*      *Shanghai, China*

- Optimized the storage of comma-separated values (CSV) trace data using the netCDF I/O library. Introduced the "dimension packing" storage model which reduces the file size and 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 Content-aware Storage System**             *Jan 2019 - Aug 2019*
*Research Assistant, ShanghaiTech University, L.I.O.N Group, with Prof. Shu Yin*       *Shanghai, China*

- Designed a high-performance, parallel file system named RosFS. It aims to dig out the "content locality" within highly-structured data formats, by clustering data by topics and providing users a better locality when operating on a subset of topics.
- Tested with Robot Operating System bag files, and achieved 6.5x performance improvement on opening and at least 1.4x on reading.

## PUBLICATIONS & PATENTS

- Yin, S. and Hu, G. 2019. *A Storage System Management Policy Based on Data Content Locality*. CN. Patent application 201910499391.9, filed in June 2019. Patent pending.

## TEACHING EXPERIENCE

**Teaching Assistant in Computer Architecture**                              *Feb 2019 - Apr 2019*
*School of Information Science and Technology, ShanghaiTech University*            *Shanghai, China*

**Teaching Assistant in Operating Systems**                                *Sep 2018 - Jan 2019*
*School of Information Science and Technology, ShanghaiTech University*            *Shanghai, China*

- Guided semester-long course projects on the PintOS system kernel from Stanford CS140.

**Teaching Assistant in Discrete Mathematics**                             *Mar 2018 - Jul 2018*
*School of Information Science and Technology, ShanghaiTech University*            *Shanghai, China*

## PRIZES & AWARDS

- Outstanding Research Award, CSST Program 2019, University of California, Los Angeles     *Sep 2019*
- Second Class Prize, ASC Supercomputing Cluster Competition 2019 (team leader)          *Mar 2019*
- Outstanding Teaching Assistant Award, School of Information Science and Technology       *Jan 2019*
- Meritorious Winner, Mathematical Contest in Modeling (MCM) 2018                      *Apr 2018*

## MISCELLANEOUS

- **Skills:** System programming, C/C++, Rust, Python, Linux servers dev/ops, MIPS