

Zeyuan Hu

✉ zeyuan.zack.hu@gmail.com 🏠 <https://zhu45.org> 🌐 <https://github.com/xxks-kkk>

EDUCATION

- | | | |
|--|--------------------|-----------------------------|
| University of Texas | Austin, TX | Sept 2017 – May 2019 |
| <ul style="list-style-type: none">• M.S. in Computer Science. (GPA: 3.81/4.00) | | |
| University of Wisconsin | Madison, WI | Sept 2010 – Dec 2014 |
| <ul style="list-style-type: none">• B.A. in Computer Science. (GPA: 3.74/4.00)• B.A. in Economics with Honors. (GPA: 3.85/4.00)• B.A. in Mathematics. (GPA: 3.81/4.00) | | |

WORK EXPERIENCE

- | | | |
|---|---------------------------------------|----------------------------------|
| Cloud Architect Engineer | State Street Financial Service | June 2019 – November 2019 |
| Omnia storage team | | |
| <ul style="list-style-type: none">• Built auto-deployment system of IBM Cloud Object Storage in multi-site clusters using <u>Ansible</u>, <u>Docker</u>• Developed a distributed workload generator and performance benchmark toolkit written in <u>Go</u> with <u>Redis</u>, <u>InfluxDB</u>, <u>MongoDB</u> and <u>Elastic Search</u> | | |
| Software Engineer Internship | Schlumberger | May 2018 – August 2018 |
| HPC infrastructure team | | |
| <ul style="list-style-type: none">• Implemented a monitoring component of the in-house High-Performance Computing (HPC) engine in <u>C++</u> to provide the fault tolerance and handle the “straggler” problem• Employed SGD algorithm to dynamically learn the best timing for backup executions of the in-progress tasks based on the computation task characteristics• Built a <u>C++</u> code generator that automatically generates the application layer code based on the engine API | | |
| Software Engineer | IBM | August 2015 – August 2017 |
| Db2 LUW federation team | | |
| <ul style="list-style-type: none">• Constructed <u>Hive</u> and <u>Impala</u> wrappers with <u>C++</u> and <u>Java</u> to support federation database between traditional RDBMS and Hadoop-based data warehouse solution• Created automated setup tools with <u>Shell</u> that reduce product configuration time by 75%• Enhanced server option optimization tools using <u>C</u> to reduce federation database performance tuning time by 90 % and enable the capability of tuning the product against Hive, Impala, and Spark• Resolved over 20 defects, including a severe memory leak issue that impacted a \$1.6 million deal | | |

SPECIALIZED SKILLS

- **Languages:** C++, C, Python, Go, Rust, Shell, SQL, Java, Lisp, MATLAB
- **Software:** CMake, Autotools, QEMU, Docker, Tensorflow, Keras, Git, ClearCase, Hive, Impala, Hadoop
- **Graduate Coursework:** Machine Learning, Structured Models for NLP, Human Computation & Crowdsourcing, Natural Language Processing, Semantics, Distributed Systems, Advanced Operating Systems, Data Centers, Algorithms, Automated Logic Reasoning,

PUBLICATION

- Jialin Wu, **Zeyuan Hu**, Raymond J. Mooney. “Joint Image Captioning and Question Answering” In *VQA Challenge and Visual Dialog Workshop at the 31st IEEE Conference on Computer Vision and Pattern Recognition* (CVPR 2018)
- Jialin Wu, **Zeyuan Hu**, Raymond J. Mooney. “Jointly Generating Captions to Aid Visual Question Answering”. (ACL 2019 *Oral*)

SELECTED PROJECTS

- **RustFS** (2018 -). Building a user-space file system that leverages NVMe SSD. [Rust](#), [SPDK](#)
- **Strata with Lease** (2018). Extended Strata file system with Lease mechanism to support concurrent file access across processes. [C](#)
- **HyperPebblesDB** (2018). Constructed a key-value store that is part of LevelDB family with focus on reducing write amplification. [C++](#), [CMake](#), [Autotools](#)
- **Distributed Key-Value Store** (2018). Built a distributed key-value store with [Python](#) that uses *eventually consistency* model with two session guarantees: *Read Your Writes* and *Monotonic Reads*.

HONORS AND AWARDS

- 2018 **Best Internship Project Award (Software Engineering)**, Schlumberger
- 2017 **IBM Appreciation program for the Practice: Dare to create original ideas**, IBM
- 2016 **IBM Manager's Choice Award - Put the Client First**, IBM
- 2016 **IBM China Development Laboratory Hackathon - 2nd Place**, IBM
- 2014 **Graduation with Distinction**, University of Wisconsin
- 2013 **Honors Summer Sophomore Research Apprenticeship**, University of Wisconsin
- 2012 **Meek Bishop Scholarship in Economics**, University of Wisconsin
- 2010-2012 **Dean's List**, University of Wisconsin

TEACHING

- CS386D Database Systems (Spring 2019, UT-Austin). Teaching Assistant
- EE382V Data Engineering (Fall 2018, UT-Austin). Teaching Assistant
- NEU466M Quantitative Methods in Neuroscience (Spring 2018, UT-Austin). Teaching Assistant
- M408K Differential Calculus (Fall 2017, UT-Austin). Teaching Assistant

MANUSCRIPT

- **Zeyuan Hu** and Julia Strout. Exploring Stereotypes and Biased Data with the Crowd. arXiv preprint arXiv:1801.03261 (2018)

RESEARCH EXPERIENCE

- | | | |
|---|-------------------|-----------------------------------|
| Research Assistant
Prof. Vijay Chidambaram | UT-Austin | August 2018 – Present |
| • Building a user space file system on top of NVMe SSD leveraging SPDK library from Intel and Rust | | |
| Research Assistant
Prof. Emmett Witchel | UT-Austin | April 2018 – December 2018 |
| • Used a cloud service benchmark (<i>CloudSuite</i>) to measure the performance penalty brought by encryption on the IPC between a web server (Nginx) and a PHP application in a local environment | | |
| • Measured journaling impact on the write amplification of various file systems using <i>filebench</i> (customized), <i>blktrace</i> , <i>iostat</i> , and <i>strace</i> | | |
| • Measured the write amplification of workloads from <i>filebench</i> and Git workload from <i>BetrFS</i> on file systems that are fragmented (i.e., <i>age</i>), which is created from file system aging tool (e.g., <i>Geriatric</i>) | | |
| Research Assistant
Prof. Vikas Singh | UW-Madison | May 2013 – April 2014 |
| • Applied Spatial Gaussian Process & Dirichlet Process on fMRI data with MATLAB and improved power of testing on predicting Dementia based upon pixel value of the scan by 5 % | | |

SERVICE AND SOCIETIES

- UTCS Master Admission Committee (Jan 2018 – March 2018), Member
- IBM Diamond & Ring Toastmaster Club (Jun 2016 - Jun 2017), President