

# HENRY OU

## PERSONAL INFORMATION

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## EDUCATION

*B.Sc Mathematics  
of Computation*                      2016-2020                      The University of California, Los Angeles  
GPA: 3.916 · Department of Mathematics  
The program covers mathematical theory and the applications of computing to mathematical problems. Programming and numerical analysis skills are emphasized.

## WORK EXPERIENCE

*Course Reader*                      2017-2018                      UCLA  
Wrote and used scripts to grade assignments for an introductory programming course.

## PROJECTS

*Highly Available  
Sharded Key-Value  
Store*                      I wrote using Go and Go RPCs a basic highly available sharded key-value store. The primary work unit is a three machine cluster using Paxos for consensus. Each cluster stores some number of shards, the assignment of which is managed by a management Paxos cluster. This is responsible for coordinating the addition and removal of clusters, as well as the migration of shards between clusters as to be able to effectively load balance.

*Wander.io*                      This was a group project in which the group created a website that can generate an itinerary for a trip to any location and date range based on Google Places information. I was responsible for managing the entire API request stack for Google Places, Maps, and Routes, as well as creating the deployment toolchain. Pulling the shared Git repository, it builds a docker image and deploys it as a serverless application on GCP with nearly unlimited scalability.

*Home Server*                      I maintain a home server for remote storage, OS compatibility testing, and high performance computing. It also serves as a testbed to try out new applications and technologies. The server implements the ESXi hypervisor, a software next-gen firewall along with software defined networking, networked file storage, and a primarily containerized application architecture.

## SKILLS

*Languages*                      C/C++, Python, Go, Matlab,  $\text{\LaTeX}$   
*Technologies*                      Linux, Docker, ESXi, Networking

## OTHER INFORMATION

*Languages*                      ENGLISH      · First Language  
MANDARIN      · Fluent

August 16, 2020