Hantao (Will) Wang

www.hantaowang.me
hwang97@berkeley.edu
github.com/hantaowang
(310) 293-4575

Education

UC Berkeley
B.S. in Electrical Engineering and Computer Science — August 2016 - May 2020
Tech GPA: 3.98, Cum GPA: 3.85
Eta Kappa Nu (HKN), Deans Honor List (Spring 17, Fall 17, Spring 18)

Selected Coursework: Probability and Random Processes, Operating Systems, Internet Architecture and Protocols, Computer Security, Algorithms, Computer Architecture, Convex Optimization

```
languages := []api.Language{Go, Python, Java, JavaScript, SQL, C, HTML, CSS, Latex}
```

Experience

Network Systems Lab
Research Assistant — April 2017 - Present
- Verified Event Handlers
  - Currently researching how distributed systems respond to developer defined event driven triggers, looking at feasibility, convergence, performance issues.
  - Architectured and implemented Scotty, a client side event based Kubernetes controller in Go to check and enforce complex user defined placement invariants on a Kubernetes cluster.
  - Currently leading a team of undergrads on the continued development of Scotty.
  - Built a custom release of Kubernetes off of release 1.10 to support the master side features of Scotty.
- Throttlebot
  - Previously researched the automatic identification of resource under and over provisioning in distributed systems by systematically throttling container resources allocation.
  - Created Throttlebot, a black box tool that jointly tunes resource limits in a distributed application to optimized for cost and performance.
  - Designed unqiue distributed applications using a variety of common microservices for experiments to show not only Throttlebot's effectiveness but also the difficulty of manually tuning based off resource utilization.
  - Preparing paper for submission to NSDI.

Kelda
Software Engineering Intern — May 2018 - August 2018
- Working on making Kubernetes more accessible by creating a local development tool that eases the complex CI/CD and incident response pipelines.
- Set up applications on GKE, AWS, and Minikube along with monitoring, logging, and CI/CD tools such as Jenkins, Spinnaker, Gitlab, Prometheus, Elasticsearch, etc.
- Identified pain points working with the current major tools in the environment and analyzed the technical implementations and limitations of these tools.
- Previously worked with the team on Quilt, a novel container orchestrator with a JavaScript based deployment specifications.

Berkeleytime
Backend Engineering Lead — July 2018 - Present
Backend Developer — April 2017 - July 2018
- Berkeleytime is Berkeley's most popular course catalog website, with over 26,000 unique monthly users.
- Implemented user authentication, accounts, and worked on both frontend and backend aspects of the scheduler.
- Leading migration from Heroku to a microservices on Kubernetes and setting up monitoring and logging.
- Redesigning the system architecture and creating new services to handle data lookup, caching, and search.

Teaching

CS 168: Internet Architecture and Protocols (uGSI) — August 2018 - Present
- Currently working on writing a new class project on transport for CS 168.

Computer Science Mentors (Junior Mentor) — January 2018 - May 2018
- Created course material on Weighted Quick Union w/ Path Compression and its amortization proof.