# Oliver (Ziqi) Zhang

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## EDUCATION

**University of Michigan** - *Ann Arbor, MI* Sep. 2018 - Jan. 2021
*B.S. in Computer Science | Minor in Business at Ross School of Business* GPA 3.93/4.00

**University of Rochester** - *Rochester, NY* Sep. 2016 - May 2018
*B.S. in Computer Science, B.A. in Business | Minor in Japanese* GPA 3.96/4.00

## WORK EXPERIENCE

**Google** - *Cloud Signal Quality; Ann Arbor, MI* May. 2020 – Present
- Designed a demo project for integration testing of OpenCensus tracking feature using C++ gRPC lib
- Created Sampling API for the tracking feature in OpenTelemetry to balance observability and load

**University of Michigan** - *Security Lab, Research Assistant; Ann Arbor, MI* Apr. 2019 – Present
- Designed object detection program using OpenCV and Python to defend the adversarial attack
- Proposed a novel method to accelerate adversarial training and a method to diagnose models

**LiveRamp** - *Backend Engineering Intern; San Francisco, CA* May. 2019 - Aug. 2019
- Revamped a Hadoop workflow using Zookeeper to solve a filesystem deadlock problem on GCP
- Refactored Hadoop workflows and created new services to migrate jobs from VM to Kubernetes
- Upgraded Rails dashboards with a load balancer using Ambassador and Terraform to externalize APIs
- Created a Java API to provide insights for service requests from customers

**Microsoft Research Asia** - *Engineering Intern; Beijing, China* Jun. 2017 - Aug. 2017
- Initiated a web app project which creates personalized posters to attract more Hackathon participants
- Conducted the Hackathon campaign with the web app and videos and improved participation by 30%
- Maintained and updated the official site of Microsoft Asia-Pacific R&D and internal sites

## PUBLICATIONS

- H Zheng, **Z Zhang**, J Gu, H Lee, A Prakash. Understanding and Diagnosing Vulnerability under Adversarial Attacks. Submitted to NeurIPS, 2020.
- H Zheng, **Z Zhang**, J Gu, H Lee, A Prakash. Efficient Adversarial Training with Transferable Adversarial Examples. In CVPR, 2020.

## PROJECT EXPERIENCE

**Thread Library and Pager in C++**
- Implemented an uniprocessor library, including cpu, thread, mutex, cv, for multi-threaded programs
- Wrote a pager to handle the creation, switching and destruction of swap and file-back virtual page

**iPerf and load-balancing CDN Implementation in C**
- Created an CDN with DNS load balancing and adaptive bitrate selection to stream video to clients
- Used VirtualBox and Mininet to create virtual networks and measured the network performance
- Implemented a program in C that uses TCP packets to benchmark network bandwidth

**Database Structure Implementation in C and C++**
- Implemented linear hashing index, external merge sort and grace hash join using C++
- Wrote a mini database which includes a primary and a secondary index, basic operations such as Selection, Projection and Join and SQL command parser

**Automated Data Ethics Review Bot in JavaScript**
- Collaborated with the legal team to automate the data ethic review process as a HackWeek project
- Used lemmatization tools in JavaScript to parse data and filter out unethical information
- Achieved 100% accuracy in test data and won the second place for audience vote for HackWeek

## SKILLS

**Programming Languages and tools**
- C, C++, Java, Python, Tensorflow, PyTorch, OpenCV, SQL, HTML, Ruby on Rails
- Hadoop, Cascading, GCP, gRPC, Docker, Bezel, Kubernetes, Terraform, Linux, Nginx