Jonathan Chen

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EDUCATION AND TRAINING

University of California, San Diego — La Jolla, CA
Bachelor of Science in Applied Mathematics — *June 2018*
- **Courses:** Linear Algebra, Mathematical Statistics, Probability Theory, Object Oriented Programming

Lambda School — San Diego, CA
Full stack web developer curriculum — *Present*

PROGRAMMING SKILLS

- **Languages**: Java, Vanilla Javascript, React.js, Node.js, GraphQL.js, Python, SQL.
- **Skills**: Full Stack Web Development, PostgreSQL, Machine Learning, Data Science
- **Tools**: Git, Docker, AWS, Prisma, TensorFlow.

EXPERIENCE

Xspace Learning — Vancouver, Canada/Beijing, China
Teacher Facilitator — *August 2018 – June 2019*
- Served as math instructor for students at Second High School Attached to Beijing Normal University
- Delivered planned course curriculum and customized learning plans for students
- Led school's Computer Science Club and delivered lectures on cryptography topics

University of California, San Diego — La Jolla, CA
Resident Assistant @ Warren College — *August 2015 – June 2017*
- Oversaw campus residents' well-being and addressed inter-personal conflicts
- Organized and led campus programs and events that promoted cultural awareness
- Planned and executed social and educational events for campus residents

PROJECTS

- **AdaptivApps** *2020*
  - Designed a strongly consistent key value storage system with linearizability and idempotent transaction that can tolerate multiple server failures and network partition.
  - Implemented a full RAFT protocol with leader election, log replication, log compaction and snapshot.
  - Heavily exposed to multithreading semantics of Go.

- **Rent Tracker** *2020*
  - Developed a passive network reconnaissance technique extracting underlying data object topology of Secure DDS Systems, a widely used protocol for IoT devices.
  - Built a system validation and penetration testing tools of DDS access control using Ocaml and Imandra, a formal verification tool.

- **Pathfinding Visualizer** *2020*
  - Designed a virtual memory management system that enables demand paging, lazy paging and page swapping.
  - Managed multithread programming using mutex, semaphore and conditional variable.
  - Implemented file-related and process-related system calls for Nachos kernel.

- **Housing Price Predictor Model** *2018*
  Implemented a simple router that supports ARP, ICMP and IP.

- **Another Full Stack Project** *2020*
  Implemented an efficient Go-back-N sliding window protocol with CRC error detection.

- **A Java Project** *2020*
  Designed a chrome extension that can generate a calendar file by parsing the web page of UCSD WebReg.

- **A Chrome Plugin** *2020*
  Implemented a gossip membership protocol in an emulated distributed system.