

EDUCATION

-
- **University of Minnesota - Twin Cities** Minneapolis, MN
PhD student in Computer Science - Center for Research of Intelligent Storage *Aug. 2018 – Jun. 2023 (expected)*
 - **National Chiao Tung University** HsinChu, Taiwan
Master of Science in Computer Science Cryptanalysis Lab *Sep. 2010 – Jun. 2012*
Bachelor of Engineering in Electrical and Electronics & Computer Science *Sep. 2006 – Jun. 2010*

SELECTED RESEARCH PROJECTS

-
- **Distributed Data Deduplication in IoT-Edge-Cloud Environment (ongoing):** Design a distributed data deduplication system on edge servers for IoT data backup workload to cloud datacenter, aiming for early deduplication to reduce network traffic.
 - **Zoned Namespace SSD (ongoing):** Integrate zone concept into NVME SSD simulator.
 - **Data Deduplication on DNA Storage:** Design chunk allocation scheme on long-term DNA storage.
 - **Deep Neural Network Hyperparameter Optimization:** Developed a genetic algorithm to automatically tune hyperparameters for Deep Neural Network training.
 - **Distributed Deep Neural Network Training:** Deployed Horovod framework to train distributed deep neural network with cifar-100 image dataset on 4 NVidia 1080 graphic cards.
 - **Public-Key Searchable Encryption with Conjunctive Queries:** Designed a public-key cryptosystem that enables keyword search over conjunctive queries. (Master's thesis.)

WORK EXPERIENCE

-
- **Hewlett Packard Enterprise Company - Nimble Storage** San Jose, CA
Software Engineer Intern *May. 2021 - Aug. 21*
 - **Sequential Update Optimizations on Index Tree:** Decreasing the index update write amplification factor.
 - **Industrial Technology Research Institute** Hsinchu, Taiwan
Researcher Engineer *Oct. 2017 - May. 2018*
 - **Studied genetic algorithm on hyperparameter tuning for Deep Neural Network:** Applied hyperparameter optimization in deep learning training using genetic algorithm. Improved training time by 5%.
 - **VIA Technologies, Inc.** Taipei, Taiwan
Senior Software Engineer *Oct. 2012 - Oct. 2017*
 - **Cryptography Project:** Extracted OpenSSL crypto algorithms into a standalone library for CPU validation.
 - **Smart Home embedded system:** Led a 5-member team to developed a integrated intercom system.
 - **Cloud Computing Centre, Industrial Technology Research Institute** HsinChu, Taiwan
Fulltime Internship *Jun. 2011 - Aug. 2011*
 - **Security-Enhanced Linux:** Developed log monitor system to alert potential infiltration of cloud OS in python.
 - **National Chiao Tung University** HsinChu, Taiwan
Research and Teaching Assistant *Sep. 2010 - Jun. 2012*
 - **Research Assistant - Elliptic curve cryptography:** Explored elliptic curve pairings cryptosystems.
 - **Teaching Assistant - Introduction to Cryptography:** Was fully responsible for projects and grading.

PROGRAMMING SKILLS

-
- **Languages:** : C/C++ (advanced), Java (advanced), Python (intermediate)
 - **Tools:** : Git, OpenSSL, vim, VScode, Android, Matlab, TensorFlow, Horovod

VOLUNTEER EXPERIENCE

-
- **Contributor:** : contributed to StackOverflow community in Cryptography, OpenSSL, Big Number.
 - **Lecturer:** : gave a lecture at Girls Who Code camp at University of Minnesota.
 - **Lifeguard:** : joined Red Cross Taiwan to secure water safety at rivers around New Taipei City.