

EDUCATION

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- **University of Minnesota - Twin Cities** Minneapolis, MN
PhD candidate in Computer Science - Center for Research of Intelligent Storage *Aug. 2018 – Jun. 2025 (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

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- **Distributed Data Deduplication in IoT-Edge-Cloud Environment:** Design optimized distributed data deduplication system on edge servers for IoT data backup workload.
 - **Zoned Namespaces (ZNS) SSDs Study:** Evaluate ZNS-SSDs' performance under different types of workload with various physical layout.
 - **File System assisted Hinted Data Allocation on ZNS-SSDs:** Design a file system assisted hinted data allocation scheme to improve ZNS-SSDs' performance.
 - **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

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- **Nimble Storage, Hewlett Packard Enterprise** Remote, MN
Fulltime Intern *Jun. 2021 - Aug. 2021, Jun. 2022 - Aug. 2022*
 - **Fractal tree performance characterization:** Dissect Fractal Tree operations to measure their performances.
 - **Improved b-tree performance in distributed storage scenario:** Designed and implemented optimization for fractal trees with specialized workload.
 - **University of Minnesota** Minneapolis, MN
Teaching Assistant *Sep. 2022 - May. 2024*
 - **Teaching Assistant - Internet Programming:**
 - **Industrial Technology Research Institute** Hsinchu, Taiwan
Research 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.

PROGRAMMING SKILLS

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

VOLUNTEER EXPERIENCE

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- **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.