林郁翔 · $Yu-Shiang\ Lin$

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EDUCATION

- **National Tsing Hua University** — Hsinchu, Taiwan
  Ph.D in Department of Computer Science — *Jul. 2012 – Dec. 2017*
  - **Doctoral Dissertation**: A New API Remoting Policy for General-Purpose Computing on GPU Virtualization and its Application on Biological Tools

- **Chang Guang University** — Taoyuan, Taiwan
  Master in Computer Science & Information Engineering — *Aug. 2010 – July. 2012*
  - **Masters Dissertation**: Efficient Constrained Multiple Sequence Alignment Tool and Parallel RSA Decryption Algorithm for Many-core GPUs with CUDA

EXPERIENCE

- **Industrial Technology Research Institute** — Hsinchu County, Taiwan
  Research and Development Engineer — *Oct 2018 - Present*
  - **Cuju**: An open source project for Virtualization-Based Fault Tolerance; primarily used for preventing the downtime causing by hardware failures. Worked on several performance optimization technologies and reduce the fault tolerance latency to less than 10 milliseconds.
  - **Latency Bounding**: Developing a system to speculate the backup time of Fault Tolerance mode, controlling the length of latency. 90% or more epochs can be bounded on 2% error for 10 milliseconds latency.
  - **Patents**: FAULT-TOLERANT SYSTEM AND CONTROL METHOD THEREOF, P52080043US & P52080043CN (under verification)

- **Tsinghua University** — Beijing, China
  Teaching Assistant — *Summer in 2013 & 2015*
  - **Parallel Programming**: Design the course and teach students to implement the parallel computing algorithm by pthread, MPI and CUDA for solving the practical problem.

- **Lecturer** — Taiwan
  GPU Computing and Virtualization Technique Lecturer — *2010 - Present*
  - **Parallel, GPU and Virtualization Technique**: Design and teaching related courses for the industry and academic.

AWARDS & CERTIFICATES

- **Outstanding Research Award, Industrial Technology Research Institute, 2020**: Research on low latency virtualization-based fault tolerance technique.
- **GitHub Arctic Code Vault Contributor**: Contribute code to 2 repositories in the 2020 GitHub Archive Program.
- **Certificate of CUDA**: Certificate Of NVIDIA CUDA Engineers (Certificate No. : 201309-01-0003).
- **CUDA programming competition 2012 & 2011**: The Second Place Award and Honorable Mention in the CUDA programming competition 2012 & 2011 in Taiwan.

PROJECTS

- **Cuju**: An open source project for Virtualization-Based Fault Tolerance. https://github.com/Cuju-ft/Cuju
- **qCUDA**: An open source project for GPGPU Virtualization at a New API Remoting Method with Para-virtualization. https://github.com/coldfunction/qCUDA
- **CUDA-clustalW**: A progressive multiple sequence alignment tool accerating by GPU. https://github.com/coldfunction/CUDA-clustalW
- **GOOS-SM**: Implement the method for accelerating the large amounts of compressing sparse matrices based on the GPU.
- **CrackRSA**: An efficient parallel RSA decryption algorithm for many-core GPUs by CUDA.
- **GPU-REMuSiC**: A tool with the regular expression constrains and uses the GPU computing by CUDA.

PROGRAMMING SKILLS

- **Languages**: C/C++, Python, shell script   **Technologies**: Linux, QEMU/KVM, Container, GPU, CUDA