Shao-Hung Chiu

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EDUCATION

Carnegie Mellon University, *Pittsburgh, PA*
Master of Science in Electrical and Computer Engineering *Aug. 2019 – Dec. 2020*
GPA: 3.75 / 4.00
Coursework: Embedded System Software Engineering (ongoing), Reconfigurable Logic (FPGA) (ongoing), Machine Learning on Large Dataset (ongoing), Cloud Computing, Foundations of Computer Systems, How to Write Fast Code (HPC), Computer Architecture and Systems

National Tsing Hua University, *Hsinchu, Taiwan*
Bachelor of Electrical Engineering *Sep. 2015 – Jan. 2019*
GPA: 4.00 / 4.30 Major GPA: 4.19 / 4.30
Relevant Coursework: Computer Architecture, OS, Algorithms, Digital Systems Design, Microprocessor Systems

SKILLS

Programming Languages: C/C++, Python, Java, Scala
Frameworks: Azure, AWS, GCP, Docker, Kubernetes, Spark
Databases: MySQL, HBase, MongoDB
Design Tools: Verilog, Linux OS

WORK EXPERIENCE

Technology for Effective and Efficient Learning (TEEL) Lab, *Pittsburgh, PA*
Intern *May. 2020 – Aug. 2020*
- Developed extended microservice features on Auto-Grading Service using Azure Front Door, Azure Kubernetes and Azure CI/CD Deployment Pipeline to ensure robustness of services
- Delivered Data Engineering course project introducing Apache Spark and Azure Databricks with contexts, reference documents, starter code and interactive project evaluation systems for college-level Computer Science education

ASPEED Technology Inc., *Hsinchu, Taiwan*
Intern *Jul. 2018 – Aug. 2018*
- Researched Super Resolution algorithms on Caffe and Tensorflow machine learning frameworks within recent 2 years with low computation complexity and assisted ASPEED to analyze and evaluate potential IP usage
- Introduced Efficient Inference Engine Design to illustrate domain-specific algorithms and heterogeneous architecture by giving a talk to 30 staff members in ASPEED

ACADEMIC PROJECTS

Cloud Computing Projects, *Pittsburgh, PA*
Carnegie Mellon University *Jan. 2020 – May. 2020*
- Constructed full-stack Twitter recommendation systems based on 1TB Twitter data implemented by Spark, MySQL Database, and NoSQL Database
- Built docker container images and deployed Kubernetes for load balancing, autoscaling and cluster management
- Deployed cloud infrastructures using Infrastructure as Code such as Terraform to achieve efficient cloud service management

Fast Kernel of G3PCX, *Pittsburgh, PA*
Carnegie Mellon University *Sep. 2019 – Dec. 2019*
- Analyzed G3PCX and designed fast kernels and data structures to accelerate computations to over 80% of theoretical peak
- Exploited SIMD instructions of Intel AVX architecture to avoid dependent chains throughout computations and reached 2x speed for bottleneck functions

Self-Driving Car with Raspberry Pi, *Hsinchu, Taiwan*
National Tsing Hua University *Jan. 2018 – Jan. 2019*
- Developed a lane following algorithm achieving prompt controls up to 6 frames per seconds by utilizing OpenCV and NumPy polynomial functions with Python 3.5
- Scheduled entire 2-semester project and led discussion in routine meetings
- Coordinated 4 teammates' work into 1 stable system involving XBEE, MobileNet, lane following and positioning