Hsuan-Ling Lin

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EDUCATION

National Tsing Hua University   Hsinchu, Taiwan
M.S. in Communication Engineering   Sept. 2013 - July. 2016
- Thesis : Implementation of MQTT Protocol for Content Management Servers and Linux-Based Embedded Systems
- GPA : 3.96 / 4.3
- MOOC course taken : LoRa IoT wireless communication technology and application

National Central University   Taoyuan, Taiwan
B.S. in Communication Engineering   Sept. 2009 - June. 2013
- Last two-years average GPA : 3.49 / 4.0
- Academic Excellence Award (for ranking top three student in class in semester)   2011 First Semester
- Relevant coursework : Probability, Data Structure, Computer Programming I(Introduction to Computers I), Computer Network, Signal and System, Linear Algebra(Engineering Mathematics II), Computer Organization, Communication Theory I & II

CONTINUING EDUCATION

National Taiwan Normal University   Taipei, Taiwan
Department of Computer Science and Information Engineering   Feb. 2019 - June. 2019
- Course taken : Computer Algorithms (Grade : A+)
- Course taken : Operating Systems (Grade : A+)
- GPA : 4.3 / 4.3 (6 credits)

National Taipei University of Technology   Taipei, Taiwan
Department of Computer Science and Information Engineering   Feb. 2019 - June. 2019
- Course taken : Discrete Mathematics (Grade : 97 / 100)
- GPA : 4.0 / 4.0 (3 credits)

WORK EXPERIENCE

MStar Semiconductor, Inc.   Taipei, Taiwan
Software Engineer   Dec. 2016 - Jan. 2019
- MStar is a global leading fabless semiconductor company in Application Specific ICs
- Video encoder (JPEG/H.264/HEVC) FPGA verification : Developed and implemented features for verifying HW IP functions in encoder c-model, and achieved to cover all random-test in FPGA verification.
- Video decoder (Google AV1) FPGA verification : Focused on HW AV1 IQ/IT/RC verification, including develop HW IQ/IT/RC patterns through AV1 cmodel and supported HW decoded Allegro bit-stream. Besides, tested Netflix and YouTube stream.
- LZMA encoder (HW oriented Dictionary encoding) FPGA verification : Designed the testing flow and built up the testing model to verify single mode and CMDQ mode and accomplished four testing item criteria: CRC, Compressed bit-stream, byte-count and decompressed data.
- Performed routine checks in FPGA verification.
- Designed auto-test script and patterns for routine regression.
- Identified and analyzed issues and supported HW debug.
- Researched and developed an algorithm for compressing AV1 motion vector, and it improved the compression rate up to around 35%.
- Developed GUI Tool to decode Multi-Format coding and display a variety of YUV format,and designed and optimized user-interface more friendly.
- Cooperated with HW team to develop High-level synthesis(HLS) in AV1 IT code, and implemented IADST/IDCT C code to be HW architecture alike.

PROJECT EXPERIENCE

National Tsing Hua University Library Wireless Tour Guide program.   Sept. 2015 - July. 2016

Developed wireless tour guide system for NTHU library

- Implemented the collaboration between content management server and Linux-based embedded system via the MQTT protocol, which is standardized by OASIS.
- Created the web application as geographic user-interface(GUI) on server-side, and thus admin could operate the system more easily.
- Designed MQTT topics/messages and the shell scripts in the Linux-based embedded systems to achieve automatic configuration of embedded systems, and monitoring whether the guide nodes connecting and analyzing the log file.
- System included four mainly features: Initializing settings, Floors management, Monitoring guide nodes, Statistics.

CatchUp: A cloud platform for meeting minutes   Sept. 2011 - July. 2012

Developed a productive platform to provide commercial features : meeting minutes, exchanging messages, location tracking and file transferring. Also, synchronizing all the related co-workers information.

- Integrated software and embedded system(RTL 8196c).
- Implemented the server-side through PHP+MySQL.
- Created database and designed the relational data.

SKILLS

Programming Languages	C, C++, PHP
Tools	GIT, Shell Script, Batch, LaTeX, High-level synthesis
Potocols	MQTT, HTTP
Package	Windows Form C++, bootstrap
Industry Knowledge	Video Codec, FPGA Verification

LANGUAGES

Mandarin : Native

English : Fluent

Test Score

- GRE score : 327 / 340 (V: 160/170, Q: 167/170, AW:3.0)
- TOEFL score : 110 / 120 (R(), L(), S(), W())

AWARD

MStar Semiconductor Inc., Research and Development Division
- **MStar Short Term Reward *2** (for recognizing the outstanding employee)   Oct. 2017 and May. 2018

National Central University, College of Electrical Engineering & Computer Science

Senior Project Contest   Sept. 2011 - July. 2012
- **1st Prize**
- **the Best Popularity Prize**

EXTRACURRICULAR ACTIVITIES

National Central University, Chang-Hua Area Alumni Association   Taoyuan, Taiwan

Vice President   Sept. 2010 - Sept. 2011
- Planed and executed one-week educational-camp for disadvantaged elementary school students from aboriginal villages from aboriginal villages
- Led members to help the association get more exposure by organizing activities.

National Central University, Engineering Summer Camp for High School Students   Taoyuan, Taiwan

Activities Coordinator   Sept. 2009 - Sept. 2010
- Helped high-school students for knowing more communication engineering through one week summer camp