Xing GUO

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Education

Southeast University, Nanjing, China Aug. 2015 – Present

B.S. in Electronics Engineering (EE)

Experience

Herald-Studio Organizition. Southeast University Aug. 2016 – Present

Backend developer Collaborated with 3 or more other students

Projects:

- *webservice-py* – Server application for *Herald* (Campus assistant application)
- *Two Studies, One Action* – Online Q&A system for Nanyang Normal University

Involving Skills: *Python, MySQL, Javascript, etc.*

Individual Projects

- *Haskell-Re* Feb. 2018 – Mar. 2018

  – Yet another regex engine implemented in Haskell. Supporting most features(*concatenation, alternative, repetition, group, positive set, negative set, etc*) in PCRE style regular expression, using Haskell monadic parser for parsing regex BNF expressions and Thompson's construction, subset construction, and DFA minimization algorithms for constructing automaton.
  Involving Skills: *Haskell, Automaton Theory, Parsing Techniques, etc.*

- *Video Processing System* Oct. 2017 – Nov. 2017

  – A video processing system based on ZYNQ-7000 for general purpose. Demonstrated a prototyped video processing architecture with OV series sensor input, VDMA buffering and HDMI/VGA output which could be extended with AXI interface video processing units or high level video processing programs.
  Involving Skills: *C/C++, VHDL, Verilog, Python, etc.*

- *Bit-Torrent Sniffing Crawler* Oct. 2017 – Nov. 2017

  – A Bit-Torrent searching engine implemented in Node.js. Achieved that recording 700,000 non-repetitive items in 4 hours.
  Involving Skills: *Node.js, Bit-Torrent Protocols, etc*

2017 National Undergraduate Electronic Design Contest July. 2017 – Aug. 2017

Programmer Collaborated with 2 other students

Projects:

- *Digital Oscilloscope*
  – A digital oscilloscope based on Xilinx FPGA for sampling and STM32 micro-controller for display, using equivalent sampling algorithm. Bandwidth: 10Hz – 200MHz, Real-time sampling rate: $<$ 1MSa/s, Equivalent sampling rate: $\geq$ 200MSa/s
- *Equal Precision Frequency Meter*
  – A frequency meter based on Xilinx FPGA for sampling and STM32 micro-controller for display, using equivalent precision sampling algorithm. Bandwidth: 10Hz – 150MHz, Voltage: 10mV – 1V
- *Adaptive Filter*
  – An adaptive filter using LMS algorithm. Bandwidth: 10kHz – 100kHz

Involving Skills: *C/C++, VHDL, Verilog, Matlab, Analog/Digital circuits design, etc.*

2016 Southeast University Student Research Training Program Nov. 2016 – Nov. 2017

Leader Collaborated with 4 other students

Projects:

- *Instant Portable Airline Tracker*
  – An Android application with hardwares that helps you track airplanes which is based on Dump-1090 firstly proposed by Salvatore.

Involving Skills: *C/C++, Java, Python, Android, etc.*

2016 American Association of Physics Teachers Summer Meeting July. 2016

Speeker Collaborated with 2 other students

Projects:

- Speech *How to make a stone skip more*
- Poster *How to make a stone skip more*
- Poster *Mechanical analysis of the non-uniform falling chimney*

Involving Skills: *Matlab, Classical Mechanics, Mathematical Modeling, etc.*

Honors and Awards

2nd Prize of Jiangsu Province, Award on *2017 National Undergraduate Electronic Design Contest* July. 2017
Miyoshi Student of Southeast University Mar. 2017
Course Scholarships for College Physics Aug, 2016

Skills

- Languages: *Chinese, English*
- Programming Languages: *C/C++, Python, Verilog, VHDL, Haskell*
- Platform: *Linux, OS X*
- Interests: *Hardware development, Software development, Algorithm, Mathematic, Physics(especially quantum mechanics), Soccer, Table tennis.*

Publications

- HOU Ji-xuan, LI Zhi-ang, GUO Xing, NIU Zhi-hao. Mechanical analysis of the non-uniform falling chimney[J]. College Physics, 2017, 36(6): 50-51.