

Dongze (Steven) Yue

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Bachelor of Science, Electrical and Computer Engineering
Computer Science Minor

Expected May 2018

GPA: 4.027 (2016 Fall), 3.658 (Overall); Dean's List, Fall 2016, Fall 2015

Relevant Courses: Design with Microcontrollers, Embedded Operating Systems, Computer Architecture, Complex ASIC Design, Embedded Systems, Microelectronics, Objected-oriented Programming, Mechatronics, UNIX Scripting, Data Visualization

INDUSTRY EXPERIENCE

Apple Inc., Cupertino, CA, *System Engineer/Hardware Test Engineer Intern*

May-Aug. 2017

- Design firmware/hardware test fixtures to validate the proprietary communication module
- Maintain test plan and design requirement documents
- Generate validation reports and program scripts to automate repetitive tasks

Sony Corporation, Atsugi, Japan, *Marketing Engineer Intern*

Jun-Aug. 2016

- Arranged technical promotion support of professional network camera products
- Designed and implemented a wireless camera management solution on Unix platform in 2 weeks using python flask server as the server, python-wrapped C library as USB interface, JavaScript-based HTML as front-end
- Modified and recompiled the original mjpg-streamer in order to generate a Motion-JPEG stream with in flask framework to enable LiveView for cameras
- Altered the original ActiveX-based Storage Calculator web application into pure JavaScript-based HTML
- Presented the new UMC-S3C and SNC-VB770 product at a global line-up conference

ENGINEERING EXPERIENCE

Cornell University Unmanned Air Systems, Ithaca, NY, *Electrical and Business Team Member*

Fall 2015 – Present

- Designed and engineered a fully working antenna tracker for the directional antenna that rotates itself to follow the aircraft in real-time for controlling the aircraft solely on a PIC32 platform with customized PCB
- Integrated a Raspberry Pi running python GPS-calculation script and the PIC micro controller running the core PID algorithm as well as the magnetic encoder that counts the rotation of the motor
- Drafted, filmed and edited a 3-minute professional-grade crowdfunding video that raised USD \$18000 in a month

Project: ASIC Stochastic Gradient Descent Optimization Accelerator, Ithaca, NY

Apr 2017

- Designed and developed a hardware accelerator that speeds up Stochastic Gradient Descent Optimization process running on a Tiny RISC-V pipelined microprocessor. Pushed the design through automated ASIC flow to obtain an optimized floor plan of the design and analyzed power and timing performance
- Analyzed modern day deep learning approaches and factor them into generic functional blocks. Rewrote the functional blocks using C to obtain a direct translation to assembly. Optimized the assembly code to run better on the microprocessor
- Implemented a Functional Level as well as a Register-Transfer Level design of the accelerator based on the derived functional blocks. The accelerator takes in the input dataset and performs Stochastic Gradient Descent over epochs

Project: PIC32-based Video Game Engine with demo package, Ithaca, NY

Nov 2016

- Proposed and implemented a fully working video game engine for PIC32 micro controllers that is written solely in C and integrated Protothreads threading library to enable the device to render sprites, computing input vectors, displaying complicated graphics and loading/changing scenes
- Created a demo package together with the engine that is a rope jumping game with NES Controller input and audio output using on-board Vref DAC and DMA bursts
- Synthesized NTSC video signal using SPI channel triggered by chained DMA as well as timer controlled Hsync pulses

Project: Intelligent Home Security Solutions, Ithaca, NY

Nov 2016

- Created a home security solution using Raspberry Pi that enables users to monitor the status of their household using their phone or laptop browsers and control the automation parameters over internet
- Built a miniature house model and fit all the electrical components in the model for demonstration purpose
- Server built upon Flask, messaging between processes was built upon python socket library and a distinct process keeps track of all the messaging. Camera is streamed using mjpg-streamer and accessed using cross origin resource sharing.

SPECIALIZED SKILLS

Programming Languages: C, Python, Verilog, JavaScript, Java, C++, C#, MATLAB, Bash

Microcontrollers: Arduino, Raspberry Pi, PIC32, Particle

Software: Altium Designer, Adobe Photoshop, Premiere Pro, After Effects, Audition

Languages: Chinese (native), English (fluent), Japanese (intermediate)