Theodore Tianrun Zhang

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Experience

Tesla Motors, North American Service Intern *May 2011 – August 2011*

- Wrote Python equivalent of LabView VI for scripting viability.
- Successfully automated large data set acquisition, parsing, and organization.

Marketing Dept., University of Pennsylvania, IT Administrator *September 2009 – April 2012*

- Solve hardware and software problems for Marketing professors, staff, and PhD students.
- Evaluate, setup, test, and deploy new computers, tablets, smartphones, and related devices.

Embedded Systems Lab, University of Pennsylvania, Research Assistant *July – Sept 2010*

- Developed a proof of concept 3rd party software implementation for AutoPlug on iPad.
- Worked on AutoPlug (autoplug.org), an open-source automotive architecture for plug-n-play services, with a team of three undergraduates.
- AutoPlug won 1st Place ($4500) at the 2010 World Embedded Software Competition in Seoul, Korea.

Li Imaging Lab, Medical College of Wisconsin, Lab Programmer *May – June 2010*

- Coded Graphical User Interface to visualize connectivity of patient data using MATLAB for Alzheimer's classification.
- Compiled MATLAB program into standalone program for Linux deployment

Li Imaging Lab, Medical College of Wisconsin, Lab Technician *May – Sept 2009*

- Preprocessed functional MRI data of heroin addicts using AFNI in Linux.
- Correlated and analyzed results using t-tests and ANOVA f-test.
- Created medical graphic diagram.

Education

University of Pennsylvania, Philadelphia, PA Cumulative GPA: 3.57
School of Engineering & Applied Sciences
Candidate for Bachelor of Science in Engineering in Electrical Engineering, *May 2012*
Candidate for Master of Science in Engineering in Electrical Engineering, *May 2012*
Minor in Engineering Entrepreneurship, Mathematics, Systems Engineering

Graduate Coursework: Computer Organization, Digital Integrated Circuits & VLSI, Control of Systems, Embedded Software Programming, Engineering Economics/Finance, Engineering Entrepreneurship
Undergraduate Coursework: Embedded Systems, Electrical Circuits and Systems, Digital Design, Solid-State Circuits, Nonlinear Systems, Optimization of Systems, Linear Algebra, Economics, Marketing, Psychology, Project Management

Projects

Helicopter Aircraft Wielding Kinect (airhacks.org)
-Mounted Microsoft Kinect on quadrotor to do 3D mapping with simultaneous localization and mapping
-Implemented collision avoidance
-Our team of four won $400 for Honorable Mention Prize at ESE Senior Design Competition
-Our team of five won $5000 for 2nd Place at Cornell Cup USA presented by Intel, an embedded design competition

µWave (uwaved.com)
-Hacked a microwave and connected it to the Internet to play YouTube videos, tweet, and text the user
-Our team of four won Grand Prize of $2500 at PennApps Data 2011, an application development competition

SEPTANow (septanow.org)
-Data scraped Philly public transport website and visualized train data on Google Maps
-Our team of four won Student Choice Award of $1000 at PennApps 2010, an application development competition

Remote Accelerometer Controlled Mustang (racmustang.blogspot.com)
-Built Firefly and HC12-controlled RC car from scratch

Skills and Technologies

Python, C, iOS dev (Objective C), Android dev (Java), HTML, AFNI, Shellscript, Linux, Windows, OS X, Photoshop, video editing, MATLAB, Soldering, Oscilloscope, Multimeter, Freescale HCS12, Atmel ATmega1281, ATmega328