

Hieu Minh Nguyen

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A creative, driven engineer with experience in embedded systems, hardware prototyping, and robotics.

EDUCATION

Georgia Institute of Technology, Atlanta, GA

M.S Computer Science, *Computational Perception & Robotics*

Expected 2017

University of Southern California, Los Angeles, CA

M.S. Electrical Engineering, GPA: 3.83, *Computer Systems Architecture*

2012

B.S. Electrical Engineering, GPA: 3.79, *Computer Architecture, Controls & Robotics*

2011

TECHNICAL SKILLS

Engineering: Altium, Eagle, CodeComposer, Xilinx ISE/XPS, ModelSim, ChipScope, SPICE, Nimbic

Languages: C, C++, ARM assembly, Python, Perl, Bash, Java, Verilog, VHDL, Matlab, MicroC

Software Tools: ROS, PCL, Android, AWS, OpenCV, Eclipse, Visual Studio, Vim, Git, Subversion

Lab Tools: Oscilloscope, JTAG debugger, logic analyzer, spectrum analyzer, multimeter, ThermoStream, thermal chamber, surface mount assembly, laser cutter, 3D printer, CNC

WORK EXPERIENCE

Texas Instruments, Dallas, TX, *Systems Applications Engineer*, 2012 – 2015. Collaborated with digital designers, software developers, field/product/test engineers, marketers, and customers to support TI's catalog of ARM embedded microprocessors in the broad market space.

- Achieved deep, technical understanding of power, reset, and clock management architecture including ultra-low power modes, suspend/resume, DVFS, cpufreq, cpuidle, runtime PM for Linux and no-OS SDKs.
- Validated system functionality during silicon board bringups with focus on power distribution network, discrete and companion-PMIC power solutions, battery backup and charging, and timer modules.
- Lead automated bench characterization efforts for power management, thermal considerations, and DDR signal integrity across process, voltage, and temperature variables for datasheet specification.
- Managed production of Java-based tool for analyzing processor clock tree configurations and data import.
- Developed tools, user guides, and training materials to improve customer knowledge base.

NASA Jet Propulsion Laboratory, Pasadena, CA, *Intern*, 2011. Performed research work for Flight System Avionics, on the Instrument ShAred Artifact for Computing (ISAAC) and SMAP projects. Developed and implemented DSP algorithms in Verilog/VHDL to expand the library of computationally-intensive instrument control and computing functions for a modular, reusable FPGA-based platform.

CRES Interaction Lab, Los Angeles, CA, *Research Assistant*, 2010. Conducted directed research under Dr. Maja Matarić, exploring human-robot interaction and social primitives through multi-modal activity modeling. Utilized the Robot Operating System (ROS) to model and validate the human perception of robot deictic gestures from head orientation, timing data, and dynamic feedback.

RELEVANT PROJECT EXPERIENCE

- *AfternoonCape* – prototyped an inexpensive power/thermal measurement cape for the BeagleBone Black to monitor real-time power consumption in any system equipped with current shunt resistors
- *SeaBeelIII AUV* – Designed PCBs for sonar navigation, LiPo battery management, and interactive kill switch for use in an autonomous underwater vehicle for the international “RoboSub” competition.
- *Pool Safety Device* – collaborated with marketing and fine arts students to create a wireless electronic wristband alert system to prevent children from drowning in home swimming pools
- *Rocket Avionics Power System* – designed a fault-tolerant power distribution system for navigation, communication, and telemetry equipment in a hybrid-powered rocket mission to 100k+ ft apogee