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DAVID EASON SMITH

A real-time embedded systems engineer with seven years' project experience programming and designing embedded systems.

PROFESSIONAL EXPERIENCE

Persistent Systems, LLC (Military / Commercial)- New York, NY
Software Engineering Intern, Embedded   **May 2016-Sept. 2016**

- Performed board bring-up, chip configuration, HW/SW debugging, schematic review, and wrote documentation for an ARM Cortex-M based HDMI to myDP Video-in cable peripheral / PCB for the company flagship Android military radio platform.

- Ported 40,000+ lines of 8-bit 8051 C code to a pin compatible 32-bit ARM based NXP / Freescale microcontroller as a drop-in replacement.

- Cross-compiled NXP x86 bootloader utilities for radio ARM-Linux kernel and created 'auto-upgrade FW on cable-detect' feature.

American Jewish World Service (Non-Profit) - New York, NY
Administrative Coordinator, Development Department   **March 2007-July 2013**

- Six years in a very diverse role as an administrative project coordinator supporting 19+ fundraising department employees.

- Four years department steward and two years interim oversight of a $2.1 million-dollar department budget.

- Created Python software for fundraising team returning median household income data within radius of a target Zip code.

 OTHER EXPERIENCE: Best Buy, NYC (2005-07) | Footlight Records, NYC (2003-05) | Actor / Improv Performer, NYC (2000-03)

EDUCATION

NEW YORK UNIVERSITY

Dual Degree B.S. in Electrical and Computer Engineering
Grad. May 2017

RELEVANT COURSEWORK:

Real Time Embedded Systems (*Grad.*)	Artificial Intelligence (*Grad.*)	Sensor-Based Robotics (*Grad.*)
Feedback Control	Data Structures and Algorithms	Circuits I, II, & Electronics I

PRIOR EDUCATION: City University of New York, (2014) | The New Actors Workshop, NY (2002) | Valencia College, FL (2000)

HARDWARE AND SOFTWARE COMPETENCIES

Electronics:	Sensor Integration, Timers and Hardware Interrupts, Actuators and motor controllers, FPGA boards, SPI, I2C, UART, ADC/DAC, PWM, PID controllers
Languages:	C / C++ (7+ yrs.), Python (3 yrs.), ARM Assembly, LabVIEW, VHDL, MATLAB
Software:	Linux (4 yrs.), GCC, Makefiles, Git, GDB, Eclipse, Kinetis, Visual Studio, Keil, Altium, LTSpice, Xilinx ISE
Test Equipment:	Oscilloscopes, J-link debugger, Soldering (7+ yrs.), Logic Analyzers, Digikey, Datasheets

LEADERSHIP AND TECHNICAL PROJECTS

Embedded Systems Engineer on NYU CubeSAT 2016-2017 | https://github.com/EasonNYC/NYUSat
- 1U-sized mini satellite collecting weather science data as part of NASA's CubSAT Launch Initiative.
- Utilized FreeRTOS and STM32CubeMX to write all sensor device drivers and speedup configuration of on-chip peripherals.
- Performed Schematic Capture and PCB design in Altium Designer. Tested mixed signal parts using LTSpice.

Project Manager of NYU 2014-2015 NASA Robotics Competition Team | http://www.easonrobotics.com/?portfolio=nasa-lunar-mining-robot
- Captain and Project Manager to 13 BS and MS students in a year-long NASA sponsored autonomous lunar robot design project
- Created robot Wi-Fi communications link watchdog timer safety feature with auto reconnect ability on TCP connection dropout.
- Contributions also include: Team budget / admin, Sensor SW driver development, schematic capture, LabVIEW Teleop. GUI programming

5DOF Robotic Manipulator and board game playing Artificial Intelligence Engine | http://github.com/EasonNYC/Camelot
- AI agent uses Iterative Deepening, Alpha-beta Pruning, and partial Move Ordering
- Written in Python and compatible with VREP Robotics Simulation environment.
- Themed after the sentient computer 'HAL' from "2001: A Space Odyssey".

ARM Cortex-M4 Device Driver for the Bosch BMP085 Pressure Sensor | https://github.com/EasonNYC/BMP085
- Non-blocking I2C based low level firmware which leverages an external interrupt for faster data acquisition rates.