Philip Tracton

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Southern California
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Experience

2010–Present **Instructor**, *UCLA Extension*, Westwood, CA.

- Took over teaching Learning Python. This is an introduction to Python course that leads the students from installing Python to building their own weblog with a database backend. Taught class live and moved it to an online format.
- Took over teaching Embedded Software 1. This class introduces students to programming in C for an embedded ARM Cortex-M3 microprocessor. Students learn to write simple code to control hardware, handle interrupts and ultimately develop tasks running on FreeRTOS.
- Conceived and developed the Using FPGAs in Embedded Systems class. The class introduces the students to Verilog and developing modules and test benches. Students ultimately program the Digilent Nexys-2 board with designs to control a variety of peripherals.

2006–Present **Sr. IC Design Engineer**, *Medtronic Neuromodulation*, Northridge, CA.

- NGMCU Inc 1 – Installed and configured 2 IP blocks (DMA and SPI). Implemented 2 custom blocks. Hardware based firmware task scheduler and MAD to AHB Bridge.
- S0905a – Lead firmware engineer for new ARM Cortex-M3 based System On Chip. Created CMSIS compliant proto-type device drivers, boot uCOS II, developed test applications, and boot ROM with symbolic linking all in simulation. Developed large demo application once silicon arrived.
- D452 – Project lead for porting a pre-existing design from 0.6μ AMI/ON to 0.25μ TSMC. Replaced the memory and clock tree, added in ECC detection and control logic, significant power reduction while mantaining the same pad foot print.
- D281 – Designed and implemented automated DSP blocks that could process data from $\Sigma\Delta$ ADCs and store in memory without CPU interaction

2002–2006 **Embedded Software Engineer**, *Medtronic Diabetes*, Northridge, CA.

- VGMS
- IGMS
- 2007 B/C/D

2000–2002 **Firmware Engineer**, *Zuma Networks*, Chatsworth, CA.
Firmware for network box

1998–2000 **Embedded Software Engineer**, *Teradyne*, Thousand Oaks, CA.
Not much

Skills

Languages	C, Python, Perl, Assembly (ColdFire, x86, PPC, Cortex-M3), Verilog, VHDL, LaTeX
Operating Systems	Windows, Linux, FreeBSD, OpenBSD, FreeRTOS, uCOS
Tools	Xilinx ISE, Altera Quartus, Modelsim

Education

2002–2005 **MS, Electrical Engineering**, *California State University - Nortridge*, Northridge, CA.

Advisor: Professor Ramin Roosta

Project: The Dynamic Burnin of the forward and inverse 2D Discrete Cosine Transform on a XC2V3000

1993–1998 **BS, Electrical Engineering**, *University of Maryland*, College Park, MD.