

Justin Reina

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THESIS

Seeking full-time employment in firmware development and related activities.

EDUCATION

University of Washington Seattle, WA M.S. Electrical Engineering (VLSI)	<i>Cumulative GPA: 3.52</i> <i>(hired before completion) 100/117 cr</i>
B.S. Electrical Engineering (<i>Embedded Design, Control Systems, Analog Design</i>) B.S. Mechanical Engineering (<i>System Dynamics</i>)	<i>Cumulative GPA: 3.30</i> <i>Dec 2009</i>
Everett Community College (EVCC) Everett, WA	<i>Cumulative GPA: 3.37</i> <i>Jun 2006</i>

WORK EXPERIENCE

Intel Labs (*Firmware Engineer, Research Scientist*) Jun '11 to Sep '16

Sole firmware engineer for a battery-powered RFID tag for government vehicle tolling in Brazil. Device supports a 3-year battery life and has been deployed in high volumes to the Brazilian government.

Generated a derivative version of the RFID tag supporting a new Intel MCU architecture (D1000), building successfully Intel's first product on the D1000 architecture. Additionally hand-built the IDE tooling (Eclipse) for D1000 development which then became used in the first product release.

Both tags featured full physical-layer and protocol implementations on-the-metal, and were certified for ISO-18000:6C, Siniav and Artesp protocol compliance.

Intel Labs Seattle (*Firmware Engineer, Research Scientist*) Sep '10 to Jun '11

Successful porting and generation of Passive RFID firmware (WISP) into Active RFID framework for generation of the Brazil Tolling Tag.

Intermec Technologies (*RF Test Automation Engineer*) Summer 2008

<i>Task</i>	<i>Results</i>
<ul style="list-style-type: none">Design of RF test system802.11/RF competencyHardware Interfacing	<ul style="list-style-type: none">Near 100% automation of labor-intensive RF testsReduced test time from 16 Hours to 25 MinutesAutomatically generated results within 5 minutes

PROCESSOR EXPERIENCE

Core

- [TI ARM-Cortex] Tiva TM4C
- [TI 16-bit] MSP430 - 2-Series, 5-Series

Suppl

- [TI ARM-Cortex] CC3200, CC2650
- [Silicon Labs] EFM8, EFM32
- [Atmel] AVR ATmega
- [Microchip] PIC32MX

LANGUAGES

Core

- C, Assembly (MSP430, PIC)
- JAVA

Experience With

- C++
- Linux / Bash
- LabVIEW / MATLAB
- Swift / HTML

QUALIFICATIONS

Embedded Topics

- Architecture
- Hardware
- Firmware
- Circuit Design
- Failure Analysis & Mitigation

Mobile Device Design

- Active iPhone iOS developer (one released App to App Store)
- Experience with Android development

Desktop & Server

- Experience with JAVA, C, C++, HTML, PHP
- Experience with Web-Hosting, Forums and Email (Axspace, four separate domains)

Rapid Prototyping

- Strong Solid-Modelling Experience (SolidWorks)
- Strong Machine Shop Experience (Mill, Lathe, CNC, Drill, etc.) – See justinreina.com/portfolio for illustration
- Extensive 3D-printing experience (Stratasys Dimension)

Engineering Design and Specification

- Mixed System Concepts, Description and Illustration experience
- Extensive System Diagram Experience (Flow Charts & UML)
- Protocol & Regulations Compliance (FIPS, ISO, SINIAV)
- Extensive Product Documentation Experience (PDRD, PRD, etc.)

Management and Leadership

- Large team or class management/leadership experience
- Generating & delivering coursework or projects which are new and forward looking for my experience and skill
- Effective and enthusiastic communication skills
- Concise and professional demeanor

Risk Analysis, Mitigation and Design

- Extensive Problem Specification Experience
- Extensive and Diverse Finite Resource design and safety mitigation experience

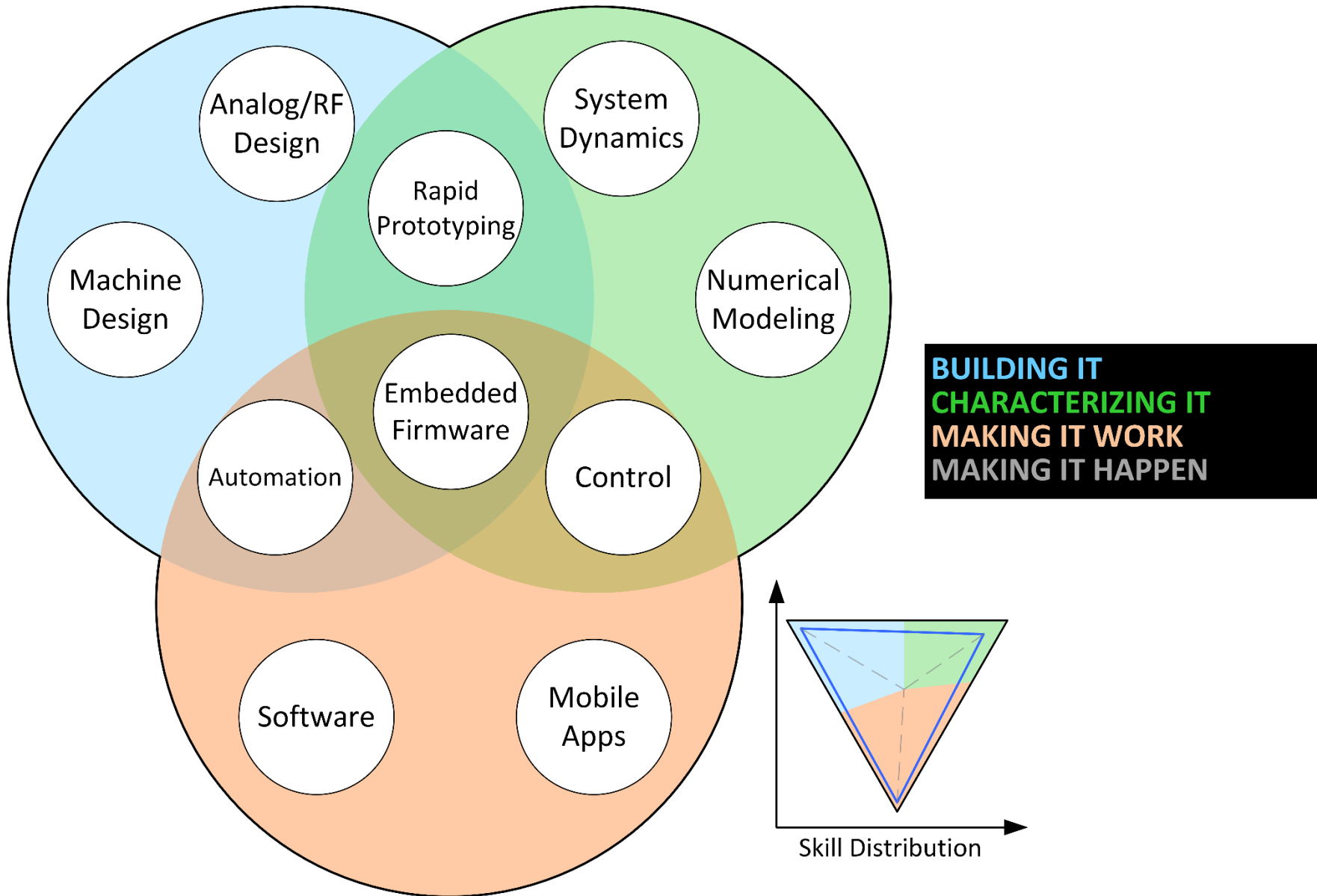
Mixed Culture Operations

- Strong experience acting as Intel's development lead of engineering for a project for the Brazilian government, travelling often overseas to act as Intel's representative in manufacturing, partner company interactions and certification agency operations

Exploration and Innovation, Prospecting

- Generation of the UW LabVIEW course, as a follow-on to dialog at an offsite LabVIEW User Group's meeting
- Design and creation of the Submarine carbon fiber propeller blades using a CNC mill for molds, as a challenge originated in after hours dialogue
- Design of four separate, fiberglass car stereo systems with fully active & balanced Parametric EQ and tone control, as a follow-on to originated ME passion in Acoustics

Skillset & Experience Map



LEADERSHIP & ACTIVITIES

LabVIEW Teacher & Community Member (CLAD Certified)

Sep 2009-Jun 2011

Started a quarterly LabVIEW certification course at the UW. Evolved into two weekly sections with 10-20 students per section. Passing students of course received complimentary USB-6009 DAQ from NI, and a free attempt towards CLAD certification.

Class expanded for one quarter to externally and paid, on-site at Fluke Electronics in Everett, WA. Also actively participated in local LabVIEW user group.

Propulsion Team Lead and Team President

2004-06

Helped initiate the Human-Powered Submarine Project at EVCC. Designed and built two different submarines, leading the propulsion and electronics teams both years. Designed and machined controllable pitch propeller, and drivetrain system.

Held role of president in second year, designing and building an ambitious and new, fully custom fiberglass solution for the submarine. Solution was not compliant with onsite manufacturing or storage and thus used my personal home garage for all fiberglass, paint and equipment installation.

Additionally towed this submarine using my personal Jet Ski trailer when school had no available solution, both locally for development then to competition, from Portland, OR to San Diego, CA with my Subaru Outback.

Teaching Assistant – Physics, Electrical Engr

2009-2010

Teaching Assistant and Lab Director for EE472 and EE478 Embedded Design courses. Taught the freshman electromagnetics lab (PHYS122) and the electronic circuits lab (PHYS334/5).

Student Senate Member & Representative

2005-06

Chosen as the student representative for the EVCC Foundation. Also chosen as the Engineering Dept. representative for the annual CC President Meeting in Olympia, WA (2006).

PERSONAL INTERESTS

Tinkering with Embedded Concepts, MCU development boards, Acoustics/Sound Reproduction, Cycling, Mentorship & Teaching, Electronics Design