**Reza Amani** Pakuranga heights, Auckland 2010

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Summary

Electronics engineer with 14 years’ experience in a variety of positions and fields, including embedded hardware/software implementation, DSP engineer, system architecture, analog circuit design, test and debug with a great track record of accomplishing projects within limited budget and time.

Technical skills

* Microcontroller hardware and software
* Digital signal processors; hardware design
* Signal processing
* Safety-critical SW implementation
* C, C++ and assembly
* Visual C#/C++
* Embedded programming within limitations
* Developing peripheral drivers
* Test and debug
* Agile methodology, Scrum
* TDD, unit testing
* EMC and EMI
* system design
* Predict future problems and providing best solutions during design stage
* Serial and wireless communication standards
* Analogue, digital and mixed systems design
* Schematic and PCB
* Developing communication protocols
* analogue, digital and mixed systems
* Microcontroller hardware and software
* signal processing
* Power supplies
* DC/DC converters and battery management
* Noise source identification
* Shielding and grounding
* PCB layout considerations for reducing interference and noise

Soft Skills

**Problem solver:** Actively seeking and resolving technical and operational problems.

**Teamwork:** Extensive experience in team projects at different levels including small team leadership.

**Independent:** Able to work without being supervised; with preference for handle barriers in person.

**Supporter:** Eager to mentor colleagues and help them to debug their works.

**Time management:** committed to do the job in time with prioritising tasks, working with a fast pace or even over-working.

**Hands-on Engineering:** Involving closely and directly in all tasks of projects.

Attributes

* Action-oriented
* Co-operative
* Decisive
* Open-minded
* Organised
* Detail-oriented
* Tolerant
* Can-do attitude
* Creative
* Calm
* Logical thinker
* Avid traveller
* Seeking out new responsibilities regardless of reward

Experience

**R&D engineer** 2015-now

**Tru-test group, Auckland office**

Responsibilities:

* Embedded software programmer for a state-of-the-art energiser
* Signal processing; high-speed real-time pulse processing
* Ensuring compliance with safety standards; IEC,AS/NZ, EN
* Gathering data from field tests, simulating real data in lab
* Design architecture, HW design and SW implementation for independent safety module
* Working on legacy codes, debugging and improving

Achievements:

* Suggesting a new mixed SW/HW idea for safety module that reduced TMC by 60% and time-to-market by 4 months
* Designing new signal processing method that enabled us to perform in-pulse calculations
* Providing ideas to increase development pace
* Establishing a new development/build process for firmware to integrate debugging tools

**Embedded designer, system architect, HW/SW designer** 2005-2015

**Pardazesh Basamad Ltd.**

An agile, small size, high-tech Company performing control and R&D projects

Responsibilities:

* Providing technical guidance for engineers
* Team management, project leadership
* HW and SW designing for DSP systems, SDR platforms
* Designing hardware of digital systems; schematic and PCB
* Programming embedded systems with C/C++
* Developing GUI for control applications with visual C#
* Performing some mechanical calculations and interfacing electronic concepts with mechanical requirements
* Choosing and setting up platforms; ARM, PIC and AVR microcontrollers, Piccolo and floating point DSP’s
* Negotiate with the costumer, providing solution and choosing platform
* Making technical reports and delivering
* Proof-of-Principle, Form Study and/or functional prototyping
* Replacing RS-232 and RS-485 communication with ISM-band wireless modules in some old control systems
* Designing, implementing and testing to meet military environment requirements
* Working on legacy codes, debugging and improving

Achievements:

* Establishing project management plan based on agile concepts
* Reverse-engineering for an old under-water communication system, in order to upgrade it for new requirements
* Proposing an under-ground communication system based on seismic signal processing
* Introduced a new idea of combining MAC and PHY layers in a frequency-hopping Ad-Hoc radio with a state-of-the-art robust routing algorithm
* Developed a low-cost reliable embedded system to control chemical and pharmaceutical manufacturing systems with complicated processes
* Eye-catching records of budget and delivery time for 4 embedded control projects
* Developed an automatic system to test digital cards of up to 80 I/O’s
* Proposed and developed an innovative FH wireless link for remote-controlling a UAV, robust against interference, interception and jamming
* Successfully managed to develop a military product following some of “Mil-std-810A” and “Mil-std-810G part two” rules and methods

**Digital electronics engineer, Driver/Firmware developer** 2002-2005

**Basamad Negar Ltd.**

Developer of laboratory and broadcast products

Responsibilities:

* Digital hardware designing; schematic and PCB
* Developing peripheral drivers for DSP and microcontroller in C and assembly
* Implementing simple GUI’s with visual C++ 6.0
* Designing signal processing algorithms
* Designing and testing analogue interfaces and high precision circuits
* Proof-of-Principle, Form Study and/or functional prototyping
* Planning and teaching costumers training courses

Achievements:

* Break the record of 100MS/s sampling rate and 13.5 ENOB with an acquisition board
* power supply tuning and protection, controlling battery charging process with DSP
* Cut the hardware cost of future projects by 80% suggesting and developing a general purpose SDR platform

**Signal processing group member** 2000-2002

**Professor Hesabi organization (NGO)**

A scientific and research non-governmental organization

Responsibilities:

* PCB design, montage, primary tests
* Developing DSP drivers with assembly
* System test and evaluating

Achievement:

* Part of team succeed to develop a portable battery-powered Active-noise-controller

Education

**M.Sc. in Digital Electronics Engineering 2000**

**Sharif University of Technology**

Thesis: Debugging method for parallel-processing DSP systems

Implemented in a platform consisting 4 microprocessors

**B.Sc. in Electronics Engineering 1998**

**Sharif University of Technology**

Final project: Implementing a narrowband FSK transceiver

Controlled and used by a MCS-51 microcontroller

Computer Skills

Microsoft Visual C#

Microsoft Visual C++

TI code composer (TI digital-signal-controllers programming and debugging)

Visual-DSP (Analog devices DSP’s IDE)

Code Vision (AVR microcontrollers programming and debugging)

Keil uvision (ARM microcontrollers programming)

Microsoft Visual Studio (.NET 2013)

Xilinx ISE

Analog Devices simulation programs

Awards

3 silver medals from physics, mathematics and computer students Olympiads, 1993

2nd place in university scientific competitions among 150 students, 1998

8th place in national electrical/electronic engineering Olympiad, 2000

Outside interests

Chess (Fide Rating: 1624, North shore club team member) Team sports

Hiking Classical music

Psychology Travelling

Referees

Available on request\*