**Reza Amani** Pakuranga heights, Auckland 2010

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Summary

Electronics engineer with 15 years’ experience in a variety of positions and fields, including embedded hardware/software implementation, RF engineering, system architecture, DSP, test and debug with a great track record of accomplishing projects within limited budget and time.

Technical skills

* Microcontroller hardware and software
* Analogue, digital and mixed systems
* system architecture
* Designing/simulating/evaluating RF modules
* Signal processing
* C, C++ and assembly
* Embedded programming within limitations
* Python
* Visual C#
* Developing peripheral drivers
* Driving external data-acquisition parts and measuring technical parameters, e.g. ENOB
* Agile methodology, Scrum
* TDD, unit testing
* Version control software; SmartGit, Gitlab
* Analog circuits; design and debug
* EMC and EMI
* PCB layout considerations for reducing interference and noise
* Power supplies, filters, signal shaping
* Noise challenges in mixed systems
* Schematic and PCB
* Designing communication protocols
* Analogue circuits simulation with LTSpice
* Ability to translate user requirements into technical solutions
* Predict future problems and providing best solutions during design stage
* Serial and wireless communication standards like RS485, RS232 and ZigBee
* Safety-critical programming, fault trees, IEC and AS/NZ safety standards

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 and a fast pace

Attributes

* Action-oriented
* Co-operative
* Can-do attitude
* Creative
* Calm
* Seeking out new responsibilities

Experience

**R&D engineer** 2015-now

**Tru-test group**

Responsibilities:

* Embedded software programming
* Signal processing; real-time pulse processing
* Compliance with safety standards; IEC,AS/NZ, EN
* Working on legacy codes, debugging and improving
* Code reviewing

Achievements:

* Suggested ideas for designing safety module HW and actively contributed to ESM design discussions
* Redesigned ICM signal processing method that enabled us to perform in-pulse calculations and make the product A12 compliant
* Involved in fixing mixed HW/SW bugs and cooperated in catching some HW issues

**Embedded designer, system architecture, Analogue designer** 2005-2015

**Pardazesh Basamad Ltd.**

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

Responsibilities:

* HW and SW designing for DSP systems, SDR platforms
* Simulating
* Designing mixed systems (HW&SW); schematic and PCB
* Programming embedded systems with C
* Choosing and setting up platforms; ARM, PIC and AVR microcontrollers, Piccolo and floating point DSP’s
* Developing GUI for control applications with visual C#
* Designing and implementing serial protocols for wireless projects
* Technical negotiating with the costumer, providing solution and choosing platform
* 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
* Working on legacy codes, debugging and improving
* Implementing battery management functions in hand-held products

Achievements:

* Reverse-engineering for an old under-water communication system, in order to improve it for new requirements
* Designed and implemented a wide-band spread-spectrum radio link for safe and secure control of UAV’s
* Proposed an under-ground communication system based on seismic signal processing
* Developed a low-cost reliable embedded system to control chemical and pharmaceutical manufacturing systems with complicated processes
* Suggesting a new communication system in a parking management/guidance system, led to wiring costs being halved; using WSN, Ad-Hoc and wireless technologies
* Developed an automatic system to test digital cards of up to 80 I/O’s

**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

Achievements:

* Reached the record of 100MS/s sampling rate and 13.5 ENOB with an acquisition board
* 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, assembling, primary tests
* Developing DSP drivers with assembly
* System test and evaluating

Education

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

**Sharif University of Technology**

Thesis: Debugging method for parallel-processing DSP systems

Implemented on a platform consisting 4 floating-point digital-signal-processors

**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

Altium, Protel 99SE, LTSPICE Microsoft Visual C#

Code Vision, Keil uvision, Eclipse, AVR studio Jira, Gitlab, Git, version control systems

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, Howick club team member) Team sports, volleyball

Physics Classical music

Psychology Travelling