**Reza Amani** Pakuranga heights, Auckland 2010

Mobile: 0223688977

Email: reza.amani@gmail.com

https://www.linkedin.com/in/rezaamani

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
* RF design; RFIC’s
* Designing High power RF amplifiers
* Simulating RF blocks by AWR
* Electronic measurements; Spectrum-analyzer, network analyzer
* Superheterodyne, Single chip transceiver architecture, IQ modulator/demodulator
* DSP, SDR, implementing communication algorithms by DSP’s
* signal processing
* C, C++ and assembly
* Embedded programming within limitations
* Test and debug
* Python
* Visual C# and C++
* Agile methodology, Scrum
* TDD, unit testing
* Version control software; SmartGit, Gitlab
* Wireless sensor networks
* Analog circuits; design and debug
* EMC and EMI
* PCB layout considerations for reducing interference and noise
* Noise challenges in mixed systems
* Schematic and PCB
* Analogue circuits simulation with LTSpice
* 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.

**Computer:** Working with basic programs such as Microsoft Project, Word, Excel and PowerPoint.

Attributes

* Action-oriented
* Decisive
* Open-minded
* Can-do attitude
* Creative
* Calm
* Avid traveller
* Seeking out new responsibilities

Experience

**R&D engineer** 2015-now

**Tru-test group, Auckland office**

Responsibilities:

* Embedded software programmer
* Signal processing; real-time pulse processing
* 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
* Code reviewing

Achievements:

* Suggested ideas for designing safety module and actively contributed to design discussions
* Redesigned signal processing method that enabled us to perform real-time calculations
* Provided ideas to increase software development pace
* Improved the cooperation between HW and SW team by a common understanding
* 3 times titled as “the Engineer of the month”
* Involved in fixing mixed HW/SW bugs and cooperated in catching some HW issues

**Embedded designer, system architecture, RF designer, 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
* Designing RF modules using MMIC’s
* 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#
* 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
* Designing, implementing and testing to meet military environment requirements
* Working on legacy codes, debugging and improving
* Implementing battery management functions in hand-held products
* Utilising TI DSP’s and DSC’s for controlling high-power RF amplifiers and implementing telecommunication algorithms in handheld wireless transceivers

Achievements:

* Reverse-engineering for an old under-water communication system, in order to improve it for new requirements
* Designed and implemented a high-tech AD-HOC FH-SS handheld wireless radio, using TI DSP’s and Analog Devices ISM-band transceiver modules
* Designed and implemented a wide-band spread-spectrum radio link for safe and secure control of UAV’s
* Designed and implemented a secure FH-SS video down-link for UAV’s
* Proposed 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
* Suggesting a new communication system in a parking management/guidance system, led to wiring costs being halved; using WSN, Ad-Hoc and wireless technologies

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

Achievement:

* As a team member, managed to develop a portable battery-powered DSP-based ANC (Active noise controller)

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 Microsoft office

Keil uvision Microsoft C#

TI code composer, Visual DSP Microsoft VC++

Code Vision, Keil uvision, Eclipse, AVR studio AWR (RF simulation)

Jira, Gitlab, Git, version control systems ProjectPlace

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: 1644, Howick club team member) Team sports, volleyball

Physics Classical music

Psychology Travelling

Referees

Available on request\*