18 August 2018

Dear hiring manager,

After years of experience in different fields and levels of Embedded Software / Electronics Engineering, now I found a chance of returning back to my original passion of working in an academic environment.

I will bring more than 10 years of experience in embedded programming along with an extensive combination of other fields including PLC, analog circuit design and wireless.

At the first stage of my carrier, I experienced one year of being TA for a top lecturer at Sharif University of technology, the highest ranked technical university of Iran, followed by managing the associated laboratory. Later, I entered positions in R&D departments of 3 companies in telecommunication, control and manufacturing industries, 2 of them at the highest level of technology.

Also, I hope that my experience of working with different people in the research and development environment and supervising junior engineers will help me build a decent work relationship with the colleagues and students in the university.

My CV is provided in next pages of this document. Please feel free to reach me by mobile (0223688977) or email ([reza.amani@gmail.com](mailto:reza.amani@gmail.com)) if any more information is required.

Sincerely,

Reza Amani

**Reza Amani**

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Summary

An embedded software/Electronics engineer with years of experience in a variety of positions, fields and industries

Technical skills

* Microcontroller hardware and software
* Analogue, digital and mixed systems
* system architecture
* Designing and implementing test jigs
* PLC

Software

* C, C++ and assembly
* Embedded programming within limitations
* Test and debug
* Python
* Visual C# and C++
* Developing peripheral drivers
* GCC, Common IDE’s, Eclipse, Keil, IAR, …
* Controlling industrial equipment such as ultrasonic bath, pumps, valves, motors and sensors
* Serial and wireless communication standards like RS485, RS232 and Bluetooth
* Bluetooth programming, SiLab and Nordic

Analog

* Analog circuits; design and debug
* Power supplies, filters, signal shaping
* Noise challenges in mixed systems
* Schematic and PCB
* Developing communication protocols
* Analogue circuits simulation with LTSpice

DSP

* DSP, SDR, implementing communication algorithms by DSP’s
* Modulations; AM, FM, FSK, OOK
* Filters, FFT, …
* Converting floating point algorithms to fixed point
* Implementing signal processing algorithms on DSP’s & MCU’s with maximum performance

RF

* RF design; RFIC’s
* Designing, simulating and evaluating RF modules
* RF amplifiers, filters, synthesizers, etc.
* Simulating RF blocks by AWR
* Electronic measurements; Spectrum-analyzer, network analyzer

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.

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

Attributes

* Action-oriented
* Co-operative
* Detail-oriented
* Tolerant
* Can-do attitude
* Creative
* Calm
* Avid traveller
* Logical thinker
* Seeking out new responsibilities

Experience

**R&D engineer** 2015-now

**Tru-test group, Auckland office**

Responsibilities:

* Embedded software programmer for a state-of-the-art energiser
* Signal processing; 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
* Investigating development tools, to help selection of platform for future projects
* Supervisor of junior SW engineers in a project

Achievements:

* Configuring Bluetooth Low Energy in advanced modes, e.g. master/slave simultaneously
* Suggested a new mixed SW/HW idea for safety module to reduce TMC and TTM
* Designed new signal processing method that enabled us to perform in-pulse calculations
* Provided ideas to increase software development pace

**Embedded 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
* Performing some mechanical calculations and interfacing electronic concepts with mechanical requirements
* Working with OLE databases with visual C++
* Designing and implementing serial protocols for wireless projects
* Technical negotiating with the costumer, providing solution and choosing platform

Achievements:

* 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
* Eye-catching records of budget and delivery time for 4 embedded control projects
* Proposed and developed an innovative FH wireless link for remote-controlling a UAV, robust against interference, interception and jamming

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

**Basamad Negar Ltd.**

Developer of laboratory and broadcast products

Responsibilities:

* Digital hardware designing; schematic and PCB
* 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:

* 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)

**Teacher Assistant, Applied Electronics course** 2000

**Manager Assistant, Applied Electronics Lab** 2000

**Sharif university of technology**

Education

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

**Sharif University of Technology**

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

**Sharif University of Technology**

Computer Skills

Altium/ Protel 99SE Microsoft office

Keil uvision Microsoft C#

TI code composer, Visual DSP Microsoft VC++

Xilinx ISE Analog Devices simulation programs

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

Team viewer (remote teaching and controlling) Microsoft Visual Studio (.NET 2013)

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

Referees

Available on request\*