

Hamza Rasaei

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QUALIFICATIONS SUMMARY

- **Electrical Engineer Team Leader with over 10 years of experience.**
- **Hardware.** Electro-Mechanical system design and deployment from hand-drawn sketches to proof of concept, prototyping and mass production set up.
- **Software.** Java, C++, CSharp and JavaScript. Databases, HW Drivers and Mining.
- **Leading teams of SW and HW engineers. Liaison between SW-HW teams and BOD**
- **Primarily self-taught beyond BSc. Hands-on, A to Z engineer with the ability to take a word problem and submit a physical solution in measurement and control systems.**

ACADEMIC EXPERIENCE

Course Project Leader

2009 - 2011

Babol Noshirvani University of Technology, Iran

en.nit.ac.ir

- **Formula parser:** Machines and Languages Theory course project. Used CSharp to parse, process and plot information
- **Mapping in computer architecture:** Simulation of Associative, Direct and Set-Associative Mapping, selecting the type of mapping and input data, and calculating the hit ratio in the software
- **Driving a Stepper Motor directly via computer keyboard without a controller board:** Interface Circuit Design course project. Used CSharp to determine speed and degree of rotation. Used the Parallel Port to drive the motor

EDUCATION

Babol Noshirvani University of Technology

Mazandaran, Iran

Bachelor of Science in Computer Engineering

2009 - 2011

PROFESSIONAL EXPERIENCE

Chief Engineer

2014 - Present

Center for Applied Control Systems, Iran

AppConSys.com

- **Daggard (Car Locator)**
 - Design and implementation of electronic board
 - Pull the position data from cellular and GPS modules
 - Secure communication between proprietary Android application using ATMEGA8 micro-controller and Sim808
 - Android based application to interact phone with the device
 - Pull the map either from Google Maps or a locally stored vector map
- **All-in-one Point of Sale System**
 - Turn-key POS system. Dedicated in-house HW/SW design to protect against hacking and avoiding licensing fees. System Boots in 4 seconds.
 - Developed a software using Keil into designed and manufactured board using ARM (LPC1788) micro-controller
 - 7-inch multi-touch TFT LCD (Hardware V1)
 - 10-inch multi-touch TFT LCD (Hardware V2)
 - SD card using Native mode
 - Keyboard, mouse, printer, and scanner using USB and RS232 all driven via proprietary system software

Electronic Systems Consultant
Health Production Process Network, Iran

2015 - 2016
hppn-co.com

- **Industrial Automation System**

- Designed and implementation of hardware including Raspberry Pi 3 with Linux OS programmed in Java using Eclipse
- Remotely control the industrial automation system by developed Android and IOS application
- Web page using PHP to send/receive data and MySQL to save data and make reports
- Plot statistical quality tools (SQT) on a remote screen (smart phone, tablet, etc.)
- Different types of reports using SQLite in Android

Engineering Contracts

2008 - Present

Numerous Contract Projects, Iran

- **Industrial Incubator System Controller**

- Send command to up to 10 relay-boards using LPC1768 to control two heaters, light, fans, spray, pump, and DC motor
- Read data and time from DS1307RTC (Real Time Clock)
- Physical interaction layer using RS485 and Modbus protocol
- Android application developed in Android Studio to interact with the controller by Bluetooth

- **Universal Hardness Tester**

Shaab-co.com

- Measure the hardness of metal using different testing methods of Vickers, Rockwell, Rockwell Superficial, and Brinell
- Metal hardness calculation using video stream processing
- 24-bit analog to digital converter HI7191
- Read digital data from HI7191 using SPE protocol
- Send/Receive data to/from computer using UART protocol
- Calculate analogue data from LVDT using AD598 as Sigma-Delta LVDT signal conditioner
- Record video from the camera using a windows based software developed using EMGU Library in CSharp

Electronic and software Engineer

2009 - 2010

Koopa Pajoohesh Co, Iran

koopaco.com

- **Micro Vickers Hardness Tester**

- HI7191 analog to digital convert using SPI
- Micro-step to drive stepper motors
- Microsoft visual studio (CSharp) windows based control software
- Draw specific shapes to calculate the harness of a metal by measuring the area of shapes
- Analysis, presentation and archiving of results

IT Manager

2008 - 2009

Tajhizat Madares, Iran

tm-iran.com

- **Inventory**

- Database designed using MS Access
- Forms created using VB to interact with operator
- Statistical analysis of variety of reports

SKILLS

Programming: C, C++, CSharp, Java

WEB: HTML, PHP, ASP, JavaScript

Database: MySQL, SQLite, Access

Micro-controller: AVR, ARM

IDE: Eclipse, Android Studio, MS Visual Studio, Matlab

DreamWeaver, MS Visual Studio (CSharp), REACT

SQLite Browser, phpMyAdmin, MS Access

Keil, AtemlStudio, CodeVision

LANGUAGES

Persian: Native, **English:** Academic Competence (IELTS: 6.5) **Arabic:** familiar.