



Salvador Chavez

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Mexico City, Mexico



Description

Creative and energetic electronics engineer who is passionate about circuit design, integrated systems and software-hardware relationship. Recent graduate from Universidad Iberoamericana in Mexico City, currently looking for an entry-level position where a strong basis on both electronics and programming is needed. Open to move to another country where the development of technology is growing and talent is required.

Skills and Areas of Interest

Microcontroller and Embedded Systems and Firmware

- 3-year experience with Embedded C and ASM language
- Experience with Freescale microcontrollers (8,32-bit) and ARM-based controllers and Codewarrior IDE
- Knowledge of common peripherals (ADC, DAC, PWM, UART, SPI, I2C)
- Has developed firmware solutions using several technologies: Wi-Fi, GPS, IMU and other several types of analog sensors, RFID, TCP/IP.

Electronics Circuit

- Understanding of passive and active components (Resistors, capacitors, inductors, diodes, transistors, MOSFETs, OpAmps) and ability to design fully functional circuits for prototyping. Ability to use CAD software (Eagle & Altium).
- Basic understanding of active filters and implementation.
- Understanding and ability to operate common equipment: Oscilloscope, Signal Generator, Power Supplies, Multimeter.

Power Electronics

- Understanding of power electronics concepts (high voltage or current, power, AC-DC / DC-DC converters)
- Understanding of power generation/ transmission (Generators, Alternators, Solar Cells and Batteries).
- Basic to mid-level understanding of lightning and protection.

5-year C-language experience

Other languages

- Embedded C - Assembly - Objective C - Java - Python - Matlab - LabView - PHP - Javascript - HTML - SQL - Ladder (PLC) - VHDL

Debug Skills

- Both hardware and software level.

Control Theory

- PID, State Space, Fuzzy Logic.

Other Software

- Adobe Photoshop, Adobe Illustrator (business card sample), Autodesk Inventor.

Core Skills

- **TEAMWORK** - LEADERSHIP - LOVE FOR PROBLEM SOLVING - **PERSEVERANCE** - INNOVATION - CREATIVITY - **CURIOSITY** - PASSION FOR RESULTS - PROJECT MANAGEMENT - ASKING -

Future Career Goals

Interested in pursuing a Masters Degree in a field related to System on Chip.

Languages

Spanish (native) - English (proficient) - Japanese (basic).

Education

Fall 08 - Fall 13 Iberoamericana University, Mexico City –
BEng in Electronics Engineering

Fall 10 - Fall 12 Member of Electronics Engineering Student Council

Responsibilities: Work with a team of 3 - 4 people to achieve goals for the benefit of the entire electronics engineering alumni.

Fall 12 - Fall 13 Vice president of Electronics Engineering Student Council

Responsibilities: Coordinate a group of 4 - 5 people to achieve goals, help in the organization of several events and ensure the correct development of them.

Fall 12 - Fall 13 Teacher Assistant, Microcontroller and Processor Architecture course

Responsibilities: Assist the teacher in laboratory classes, helping students solving problems, teaching a particular subject and designing projects for the several teams of the courses.

Relevant Student Projects

2010 - Digital Systems Design - Simple TTL-based Guitar Game

- Designed a fully functional TTL-based circuit and a LED board to simulate a game where eye-hand coordination was

- needed to score using a toy guitar and push-buttons.
- Skills: Digital Electronic Circuit Design.

2010 - Processor Architecture and Programming - RF controlled toy car

- Programmed a microcontroller and a development to communicate via RF to another microcontroller to power a toy car and control basic movement.
- Skills: Embedded C, Electronic Circuit Design.

2011 - Processor Application - Microcontroller-based videogame

- Designed a fully functional videogame using a Real Time Operating System (RTOS) and implemented several algorithms to enhance overall performance.
- Skills: Embedded C, RTOS.

2011 - Signal Processing I - Simple Phone key detector

- Implementation of several active filters (OpAmp) alongside a microcontroller to filter signals and determine a pressed phone key through a microphone.
- Skills: Embedded C, Signal Processing, Electronic Circuit Design.

2011 - Automation Engineering - PLC based Refrigerator

- Implemented a PLC controlled small refrigerator .
- Skills: Electronic Circuit Design, Ladder Language, Problem Solving Skills (Refrigeration process).

2012 - Power Engineering - Dimmer

- Simple dimmer using optocoupler, UJT and SCR components.
- Skills: Electronic Circuit Design, Power Electronics

2012 - Power Engineering - DC-DC Converter 120V signal inverter

- Had to build a small DC-DC converter and manipulate the 170V DC voltage with a microcontroller to regenerate a 120V 60Hz AC supply.
- Skills: Digital Electronic Circuit Design.

2012 - Database Systems - Simple Social Network Webpage

- Created a website to organize students into sharing a car for several students living nearby, offered a strong authentication system and simple instant messaging capabilities using a database.
- Skills: SQL, HTML, PHP, Javascript, AJAX.



2013 - Artificial Intelligence - Cursor Controlled Robotic Arm With Claw

- Implemented a Python script using PyGame and PySerial to track movement of the mouse cursor inside a window and control a robotic arm with a claw that would hold a pen marker to draw. Implemented Artificial Intelligence algorithms to track the mouse cursor and to define the best positions for the arm to achieve the claw position.
- Skills: Artificial Intelligence algorithms, Python, Embedded-C, OSX core driver.

Other Project Experience

Power circuit design for a solar parabolic disk and energy generations

- Chose correct components and designed a circuit able to supply voltage to a DC motor able to move a 4metre wide solar disk concentrator research project for the university. Designed the circuit to store energy from a generator into a small battery.
- Duration: 1.5 years

Raspberry Pi-based lightbulb display with relays

- Design of electronic circuit and software for a Raspberry Pi controlled 7x10 lightbulb display with relays as part a small program to motivate high school students into get involved in electronics at the Iberoamericana University.
- Duration: Summer 12'

Design of a small multicopter aircraft

- Design of a small multicopter (quadcopter) UAV for future development as a university research project.
- Duration: 6 months

Wind Turbine - Community Service (Still in progress)

- Design of a circuit for a medium sized (2m blade / 15m tall) wind turbine able to generate and store 2kW of power to provide lighting to a small community in Tzimol, Chiapas taking strong measures to guarantee safety to the users .
- Collaborate in a team in the development of highly efficient and extremely low cost LED lightbulbs with a rated voltage of 24V as part of the lighting system of the community.
- Skills: Energy Generation, design of electronic circuit (power electronics and control), controller programming for the wind turbine yaw movement and instrumentation, energy storing, energy efficient lighting system, energy transmission.



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-EVERY BIT COUNTS-

