César Augusto Vargas Torres

Software Developer

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Goal

To get out my comfort zone and to do what I love, collaborating with great people that love the same things as me in a challenging work environment.

Skills summary

Programming languages	C, C++, C#, Python, Java
HMI	WPF, Windows Forms, Qt Widgets
APIs and framework	CUDA, DirectX, .NET, ROS
Libraries	OpenCV, Tesseract OCR, XL-Driver-Library
IDEs	Visual Studio, Eclipse, Code Blocks
Operating systems	Windows, Linux
Protocols	RS232, TCP/IP, UDP, MQTT
Embedded	Raspberry, BeagleBone, Kinetis (arm), Arduino, PIC
SW development methodologies	Waterfall, SCRUM
Equipment	PLC, Industrial Robots, AGV, Vision systems

Education

2016 - now **Master's Student in Multimedia Intelligent Systems**, *CIATEQ Guadalajara*
Thesis: Design and development of an Automated Guided Vehicle (AGV) based on Robot Operating System (ROS) for orders picking
Advisor: PhD Jayro Santiago Paz

2009 - 2014 **Mechatronic Engineer**, *CETI Colomos*
Project: Prototype of a mobile robotics development platform "Provocador X4"
Advisor: MCs Pedro Arturo Cornejo Torres

2003 - 2007 **Technologist in Computer Science and Information Technology**, *CETI Tonalá*

Professional experience

2017 - 2018 **Automation & Controls Software Engineer,** *flex*
- I was responsible for define, design, implement and deploy Industry 4.0 products, such as Automated Guided Vehicles, Visual Inspection Systems, Generic Robotic Cells, Human Machine Interfaces and other IoT applications. My activities include work closely with stakeholders in order to define requirements and scope of projects, develop products functionalities and give support.

2014 - now **Director,** *Talos Electronics SA de CV* →*www.taloselectronics.com*
- My tasks include define the business strategy, management, leading and taking part in products development for internal and external clients, like educational robotic kits, automation and controls systems, embedded products, electronics prototypes, etc.

2013 - 2015	**Software engineer**, *Telecomunicaciones y Software S.C.*

- Design and development of HMI applications to control automotive industry functional test hardware with Visual C++ that support CAN and LIN communication protocols.
- Design and development a home automation system based on embedded linux platform.

2012 - 2013	**Assembly technician**, *Telecomunicaciones y Software S.C.*

- Mechanical, pneumatic, electrical and test equipment assembly for robotic cells used in automotive manufacturing industry.

2011 - 2013	**Software developer for home automation systems**, *Tomcat de México*

- Design of home automation systems to control lighting, AV, climate and security for residential, business and commercial sector, integrating different vendors equipment and communication protocols like Zigbee, Z-wave, Wifi, Bluetooth, RS232, RS485, Ethernet.
- Design and programming AMX controllers with C/C++.
- HMI design and development for TPControl and Iridium Mobile systems.

2008 - 2011	**Test technician**, *Jabil Circuit de México*

- Maintenance and support of ICT, AOI, 5DX and environmental stress equipment.
- Assist in the build and manufacture of testers, fixtures and environmental tooling as required to meet the customer expectations.

2007 - 2008	**Diagnostic technician**, *Sanmina SCI*

- Verification testing, diagnosing and repairing of electronic circuit board assemblies.
- Assists Test Engineering department in an ongoing data evaluation program for improving the efficiency of the diagnosis of assemblies.

Personal projects

2018	**Automatic Guided Vehicle based on RFID for warehouse picking process**

Design and development of an Automatic Guided Vehicle based on RFID for a ecommerce company warehouse picking process. For this project I used ROS, OpenCV, Lidar Sensor, RFID readers, Raspberry pi, and other hardware.

2013	**Triangulation based 3D laser scanner with DirectCompute**

Design and development of hardware and Windows application with C++ that creates a real time depth map of an object using the GPU. Video

Languages

Spanish	**(**Mother tongue)
English	Fluent