

# CURRICULUM VITAE

## MIGUEL ANGEL VACA MORAN

### PERSONAL INFORMATION

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### EDUCATION

**Northwestern University**, Evanston, Illinois  
McCormick School of Engineering  
Master of Science in Biomedical Engineering: Anticipated June 2019  
(Current GPA: 3.7)

**Universidad de las Fuerzas Armadas-ESPE**, Sangolquí, Ecuador  
Department of Energy and Mechanics  
Engineering-Mechatronics, Bachelor of Science, October 2014

- Undergraduate thesis: *Design, implementation and monitoring of a photovoltaic-wind micro power generator, for the development of alternative energies*  
<https://www.youtube.com/watch?v=np9NMKwjXjA>
- Mechatronics Design class special project: *Design and implementation of an experimental module "Laws of Newton" to teach physics through new technologies*

### PROFESSIONAL EXPERIENCE

**SMARTBUS S.A. (HDL Ecuador)**, Quito, Ecuador, February 2015-August 2017  
Support and Projects Execution Engineer

- Design, implement and supervise domotics (DOMus infOrmaTICS, information technology in the home) projects using the proprietary communication technology, *HDL Buspro* (based on KNX systems)
- Install and program smart video conference systems via Internet connection capable of switching video sources using commands transmitted from mobile devices
- Program domotic systems capable of optimizing electrical consumption in home or enterprise applications
- Provide technical support to our integrators and technicians during the installation and configuration of HDL products to ensure optimal performance
- Provide installation and programming training to our commercial partners to certify and enable them to install and sell proprietary product lines in Latin America
- Supervise technical staff; liaise between the technical department and manufacturers in China to develop firmware upgrades to domotic technology

**NDP CORP**, Quito, Ecuador, November 2008-February 2015  
Assistant Management

- Create and maintain working relationships with international clients; communicate daily with clients in Spanish and English

- Obtain revenue: verify transaction information; compute charges and refunds; prepare and mail invoices; identify and alert customers of delinquent accounts and insufficient payments
- Design MS Excel spreadsheets to review and process client projects' performance
- Research and analyze a wide range of tax issues related to business transactions with implications of Ecuadorian tax laws.
- Troubleshoot and establish recovery systems for all office equipment

**ANDEC S. A.**, Guayaquil, Ecuador, June 2013-September 2013

Intern Technician

- Develop cooling system blueprints for an electric arc furnace; generate documentation for further maintenance work.
- Design and present an automation project for a cistern filling system to reduce risk of overheating and to increase productivity.
- Upgrade the human-machine interface for monitoring water levels in the cooling system to reduce risk of overheating and to increase the durability of the components.
- Provide support in the maintenance of the cooling system by taking samples and generating reports.

**TECHNICAL & COMMUNICATION SKILLS**

- Bilingual in Spanish & English
- Leadership and teamwork: detail-oriented, efficient, professional
- Communication skills: excellent written, verbal and public speaking abilities
- Strong analytical ability
- Software proficiency: mechanical 3D modeling (SOLIDWORKS, Autodesk Inventor, Autodesk AutoCAD), PLC programming (Siemens, Allen Bradley, managing industrial networks, graphical interfaces and remote controls), MATLAB, LabVIEW, Simulink, electric simulation and consumption analysis, Movie Edit Pro, Wondershare Video Editor, and Microsoft Office Suite (Word, Excel, Outlook, Access, PowerPoint)

**COURSES AND SEMINARS**

Yachay Technical University, Quito, Ecuador, June 2014

First International Congress of mathematical modeling in bioscience and biomedical engineering,

Escuela Politécnica del Ejército, Quito, Ecuador, June 2013

English language proficiency program

Coporsuper, Quito, Ecuador, June 2012

Industrial Automation, LOGOS, PLCs and variable speed drives

ASME ESPE, Quito, Ecuador, February 2012

Autodesk Inventor: Mechanical Design and 3D CAD software

Escuela Politécnica del Ejército, Quito, Ecuador

VI Congress of Science and Technology, June 2011

SOLIDWORKS: Mechanical Design and Simulation Software, March 2011

Universidad Internacional del Ecuador, Quito, Ecuador, January 2011

International Seminar on Mechatronics

## **LEADERSHIP ACTIVITIES**

Universidad de las Fuerzas Armadas-ESPE, University Student Council

Vice President, 2013

Secretary, 2014

Student Council, Department Mechatronics Engineering Representative, 2013

CEUPE (National Association of College Student Governments), Ecuador, 2013-2014

University Representative

Interdisciplinary Technical Congress *Academia Mas Alla de las Aulas* [Academics beyond the Classroom], Quito, Ecuador, 2013

Event organizer and technical liaison