Miguel A. Perez-Xochicale

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I am a hard working and enthusiastic person. Principles of responsability, human kidness and honesty guide me through my life decisions.

Research Goals

Currently as a doctoral researcher, I am gaining a deeper understanding of Nonlinear Dynamics to create novel analysis and interpretation of motion capture systems. I am deeply insterested in the field of Human Activity Recognition and Human-Robot Interaction.

Education

PhD in Electronic, Electrical and Computer Engineering — **Birmingham, UK**
University of Birmingham, — *Nov. 2014 – Present*
Thesis: Automatic Non-linear Nonlinear Dynamics Approach to Human Activity Recognition
Advisors: Chris Baber and Neil Cooke

Master Degree in Electronics — **Puebla, Mexico**
National Institute of Astrophysics, Optics and Electronics, — *Sep. 2004 – Sep. 2006*
Thesis: Digital Filter FIR with less multipliers
Advisor: Gordana Jovanovic Dolecek
Professional license: 6294064

Bachelor degree in Electronic Engineering — **Puebla, Mexico**
Technological Institute of Puebla, — *Aug. 1999 – Sep. 2004*
Thesis: Speed control of a two degrees of freedom Robot
Professional license: 4907567

Experience

Professional

Instituto Nacional de Astrofísica, Óptica y Electrónica — **Tonantzintla, Mexico**
Resaerch Assistant at the Robotics Laboratory — *February 2013 – August 2013*
A Human-Robot Interaction Demo Dance
Detailed achievements:

- This work presents a Human-Robot Interaction Demo Dance which is based on a ZSTAR3 Radio Frequency single three-axis accelerometer and a Patrolbot mobile robot. The ZSTAR3 sensor board is located in the position of the left wrist. With the wereable accelerometer, we explores four gestures of the arm in order to control the mobile robot.

Madero University — **Puebla, Mexico**
Resaerch Assistant at the Robotics Laboratory — *January 2012 – January 2013*
Mechatronic Laboratory Proposal
Detailed achievements:

- A Design of a Mechatronic Laboratory was elaborated as a proposal project for the Mechatronic engineering career at Madero University in order to offer adequate facilities to students, professors and researchers

Instituto Nacional de Astrofísica, Óptica y Electrónica **Tonantzintla, Mexico**
Profesional Resident: 6 month full time in a research institution *August 2003 – March 2004*
Speed control of a two degrees of freedom Robot
Detailed achievements:
- Programming a Microcontroller PIC 16F84 and 16F877
- Programming Virtual Instruments with LabVIEW
- Serial Communication RS-232

Teaching

TECMilenio University **Puebla,Mexico**
Hight School Teacher *August 2013–December 2013*
Euclidian Geometry, Information Technology and Microsoft Office Access

Madero University **Puebla, Mexico**
Research Assistant Professor in Mechatronic Engineering *Spring 2012 – Autumn 2012*
Fundamentals of Automation, Industrial Electronics, Research Projects II, Metrology, Physics, Computer Integrating Manufacturing, and Power Electronics

University Iberoamericana Puebla **Puebla, Mexico**
Research Assistant Professor in Electronic Engineering *Spring 2007 – Spring 2012*
Stochastic Processes Course, Digital Signal Processing, Noise and Stochastic Processes and Analog Filters

Technological Institute Superior of Atlixco **Atlixco, Mexico**
Research Assistant Professor in Mechatronic and Electric Engineering *August 2006 – June 2007*
Electronic I, Numerical Methods, and Electricity and Magnetism. (January-June 2007.) Electricity and Magnetism, and Electricity and Industrial Electronics (August-December 2006)

Awards and Honours

- I was selected to be part of MECATE 2015, an international public entrepreneurship program. My project of a low-cost educational robot was selected from 125 applications received from 35 countries.
- Full PhD Degree Scholarship in the UK from November 2014 to November 2017 from the Mexican National Council on Science and Technology
- First place at the 2013 Mexican Tournament of Robotics in the cathegory at HOME.
- Full Master Degree Scholarship in Mexico from 2004-2006 from the Mexican National Council on Science and Technology

Languages

Spanish: Native tongue

English: IETLS Band Score 6.0: Listening 6.0, Reading 7.0, Writing 6.0, Speaking 5.5. *11/01/14*

Computer skills

Operative Systems: Windows, GNU-Linux Ubuntu and Debian

Programing and markup languages: GNU-Octave, GNU-emacs, MATLAB, C++, Kdevelop, Code Composer Studio, ng-spice, LabVIEW, Arduino, Processing, LaTeX, and beginner at Robot Operating System (ROS)

Extracurricular Activities

- On June 2013, I founded LibrE Robotics, a non-profit organization for learning and sharing knowledge to build conditions for a better world.
- Giving advice on student projects such as Haptic Referee Glove Lightmetre and Pychometre using Arduino, Smart Irrigation, Persistent Of Vision Bicycle Wheel, a Delta Robot Structure

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Publications

G. Jovanovic-Dolecek and Miguel A. Perez-Xochicale. *One Method for Design of Wideband FIR Filters Without Multipliers*. Puebla, Mexico, February 2006. Proc. of the 16th IEEE Conference on Electronics, Communications and Computers, CONIELECOMP 2006, published by IEEE Computer Society, N0. 0-7695-2505-9/06. 2006 IEEE .

Miguel A. Perez-Xochicale and G. Jovanovic-Dolecek. *A New Method for Design Narrow Band Lowpass FIR Filters Using a Scale Function*. Veracruz, Mexico, November 2006. 2nd International Conference on Electronic Design, Proc. edited by Victor Champac at all, ISBN 968-9085-01-8, pp.85-89, .

Miguel A. Perez-Xochicale and G. Jovanovic-Dolecek. *A New Method for Design Narrow Band Lowpass FIR Filters Using a Scale Function*. Chihuahua, Mexico, August 2006. 28th International Congress of Electronic Engineering, Proc edited by ITCH Chiuahua, 2006, pp.165-168, .