

PERSONAL  
INFORMATION

Birthday: 8 / Jul / 1984  
 Address: Aramén # 313  
 Postal (ZIP) Code: 58070  
 Morelia, Mexico

e-mail: rodrigo.lopez@alumni.imtlucca.it  
 ORCID ID: 0000-0003-2772-0051  
 Skype ID: rdglpz  
 Cellular: +52 443 155 5416

INTERESTS &  
SKILLS**Programming Languages**

MATLAB, MATHEMATICA, R, Java, C/C++, PHP-HTML-MySQL, Python, LISP.

**Research**

Machine learning, data mining, dimensionality reduction, time series, nonlinear dynamical systems, global optimization, evolutionary computing.

**Languages**

English: 550 ITP TOEFL points. Italian: B1 Common CEFRL Level.

ACADEMIC  
DEGREE

**Ph.D. in Computer Science and Engineering** (W. European Doctorate mention). *Lucca, Italy. (February 2012 - January 2016)*

**IMT School for Advanced Studies Lucca**

- Thesis: Time Series Forecasting Based on Classification of Dynamic Patterns.
  - Advisors: Dr. Alberto Bemporad. Dr. Pantelis Sopasakis
  - Field of study: Time series analysis.

**MSc in Electrical Engineering (Branch: Computational Systems).** *Morelia, Mexico. (March 2008 - August 2010)*

**Univesidad Michoacana de San Nicolas de Hidalgo**

- Thesis: Bifurcation Diagrams for Discontinuous or Non-differentiable Equations.
  - Advisors: Dr. Juan Jose Flores Romero, Dr. Claudio Fuerte E.
  - Keywords: Evolutionary computing, nonlinear dynamical systems, stability analysis and optimization.

**B.Eng. in Computational Systems.** *Morelia, Mexico (2002-2007)*

**Instituto Tecnológico de Morelia**

- Thesis: Implementation and performance analysis of “Linux Terminal Server Project” for educational purposes.
  - Field of study: Application of distributed operative Systems.

ACADEMIC  
EXPERIENCE

**Instituto Tecnológico de Morelia.** Morelia, Mexico.

*Teaching*

**August 2011 - January 2012**

- Structured programming and object oriented programming (In Electronic and Industrial Engineering), Research Methodology (In Computational Systems Engineering).

**January 2011 - July 2011**

- Database Fundamentals (Computational Systems Engineering), Structures and organization of data. (Technology Information Engineering) and Evaluation of software projects.

**August 2010 - December 2010**

- Operative systems, selected topics in programming and research fundamentals.

**Universidad de Morelia.** Morelia, Mexico.

*Teaching*

**August 2009 - December 2009**

- Web programming with PHP

PROFESSIONAL EXPERIENCE    **State Center for Information and Communications Technologies (CETIC).** Morelia, Mexico.

*Resident in physical infrastructure department*

**March 2007 - June 2007**

- Performance analysis of **Linux Terminal Server Project** applied to basic education.

**Instituto Tecnológico de Morelia.** Morelia, Mexico.

*Social Service Project*

**February 2007**

- Develop of a PHP Web catalog for Social Service.

*IMPULSA*

**May 2005**

- Young entrepreneurs program: IMPULSA.

PUBLICATIONS    **Refereed Journal Articles**

#### **Accepted**

- *Hector Rodriguez Rangel, Vicenc Puig, Rodrigo López Farías, Juan J. Flores* . Short-Term Demand Forecast using Bank of Neural Network Models Trained using Genetic Algorithms for the Optimal Management of Drinking Water Networks. *Journal of Engineering Applications of Artificial Intelligence.*(2016)

#### **Refereed Conference Papers**

##### **Accepted**

- *Juan J. Flores, Felix Calderon Solorio, Jose Rafael Cedeño Gonzalez, Jose Ortiz Bejar and Rodrigo Lopez Farias.* Comparison of Time Series Forecasting Techniques with respect to Tolerance to Noise *IEEE Autumn Meeting on Power, Electronics and Computing Ixtapa México, November 2016*
- *Hector Rodriguez-Rangel, Vicenc Puig, Juan J. Flores and , Rodrigo López Farías.* Flow meter Data Validation and Reconstruction using Neural Networks: Application to the Barcelona Water Network **3rd International Conference on Control and Fault-Tolerant Systems, Barcelona, Spain. 2016** (To be published).
- *Hector Rodriguez Rangel, Vicenc Puig, Juan J. Flores and , Rodrigo López Farías.* Flow meter Data Validation and Reconstruction using Neural Networks: Application to the Barcelona Water Network **2016 European Control Conference, Aalborg, Denmark. June 2016.**
- *Rodrigo López Farías, Juan J. Flores and Vicenc Puig.* Qualitative and Quantitative Multi-Model Forecasting with Nonlinear Noise Filter Applied to Water Demand *IEEE Autumn Meeting on Power, Electronics and Computing Ixtapa México, November 2015* .
- *Juan J. Flores, Jose Ortiz Bejar, Jose Rafael Cedeno, Carlos Lara-Alvarez and Rodrigo López Farías* FNN a Fuzzy Version of the Nearest Neighbour Time Series Forecasting Technique *IEEE Autumn Meeting on Power, Electronics and Computing Ixtapa México, November 2015* .
- *Rodrigo López Farías, Vicenc Puig* A Multiple-Model Predictor Approach Based on an On-Line Mode Recognition with Application to Water Demand Forecasting *International work-conference on Time Series 1 Granada Spain, July 2015.*
- *Rodrigo. López, Vicenc Puig, Hector Rodriguez* An implementation of a multi-model predictor based on the qualitative and quantitative decomposition of the time-series *International work-conference on Time Series 1 Granada Spain, July 2015.*
- *Dr, Juan Flores, Rodrigo López, Julio Barrera.* Optimization with gravitational Interactions *ROPEC XIII: Autumn Meeting of Electric power systems, electronic and computation ( Reunión de Otoño de Potencia, Electrónica y Computación) Morelia México, November 2011.*
- *Juan Flores, Rodrigo Lopez, Julio Barrera.* Gravitational Interactions Optimization. In *Learning and Intelligent OptimizatioN (LION 5) Rome, Italy - January 2011.*
- *Juan J. Flores, Rodrigo Lopez and Julio Barrera.* Particle swarm optimization with gravitational interactions for multimodal and unimodal problems. In *Proceedings of the 9th Mexican International Conference on Artificial Intelligence (MICAI 2010)*, pages 361–370. Springer-Verlag. **Pachuca, México. November 2010.**

CONFERENCES, **Given**  
SEMINARS &  
WORKSHOPS

- 10mo Congreso Estatal de Ciencia, Tecnología e Innovación, en Ciencias de la Ingeniería y Tecnología. PSO con Nichos Interactivos y Búsquedas locales con Quasi-Newton (Morelia, México. September 2015 )
- Activities of X Anniversary of the Instituto Tecnológico Superior de Ciudad Hidalgo - ' Evolutionary computing applied to dynamical systems'.(Morelia, México. October 2010).
- Week of Research Projects FIE of the UMSNH - 'Gravitational Interactions Optimization ' ( Morelia, México. June 2010 ).
- Week of Research Projects FIE of the UMSNH - 'Bifurcations Diagrams using Artificial Intelligence Tools'(Morelia, México. June 2009).

**Attended**

- 5th HYCON2 Ph.D. School on Control of Networked and Large-Scale Systems and the EFFINET Ph.D. School on Control of Drinking Water Networks (Lucca Italy, 1-5 of July 2013)
- Java workshop in the 2nd Week of Computation and Systems. *Morelia, Mexico (2006)*.
- Analysis and Object Oriented Design using UML (Morelia Mexico, 8-12 of August 2011)