

## Dr. Rodrigo López Farías (Updated: 23/Feb/2016 )

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### PERSONAL

#### INFORMATION

Birthday: 8/Jul/1984  
Address: Aramen # 313  
Zip Code: 58070  
Morelia, Mexico

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### INTERESTS & SKILLS

#### **Programming Languages**

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

#### **Research**

Machine learning Data mining, Dimensionality reduction, Machine Learning, Time series, Nonlinear dynamical systems, Global optimization, Evolutionary computing.

#### **Languages**

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

### ACADEMIC DEGREE

#### **0.1. Studies**

**PhD in Computer Science and Engineering** (with European Doctorate mention).  
Lucca, Toscana, Italy. (February 2012 - January 2016)

##### **IMT Institute of Advanced Studies Lucca.**

Thesis: Time Series Forecasting Based on Classification of Dynamic Patterns.

- Advisors: Dr. Alberto Bemporad, Dr. Pantelis Sopasakis.
- Study field: Time series analysis.

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

##### **Universidad Michoacana de San Nicolas de Hidalgo.**

Thesis: Bifurcation Diagrams for Discontinuous or Nondifferentiable Equations.

- Advisors: Dr. Juan Jose Flores Romero, Dr. Claudio Fuerte Esquivel.
- Related research topics: Evolutionary computing, nonlinear dynamical systems, stability analysis and optimization.

**Engineer in Computational Systems.** - Morelia, Michoacan Mexico.(August 2002 - December 2007)

##### **Instituto Tecnológico de Morelia.**

- Thesis Project: Implementation and performance analysis of “**Linux Terminal Server Project**” for educational purposes.

### ACADEMIC EXPERIENCE

## 0.2. Courses Taught

Instituto Tecnológico de Morelia. Morelia, Mexico.

*Teaching*

**August 2011 - January 2012**

- Professor of: Structured and Object Oriented Computer programming (In Electronic and Industrial Engineering), Research Methodology (In Computational Systems Engineering).

**January 2011 - July 2011**

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

**August 2010 - December 2010**

- Professor of : Operative systems, selected topics of programming and research fundamentals.

Universidad de Morelia. Morelia, Mexico.

*Teaching*

**August 2009 - December 2009**

- Web programming with PHP

## PROFESSIONAL EXPERIENCE

## 0.3. Participation in Research Projects

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

*Resident in physical infrastructure*

**March 2007 - June 2007**

- Performance analysis of **Linux Terminal Server Project**

Instituto Tecnológico de Morelia. Morelia, Mexico.

*Social Service Project*

**February 2007**

- Develop of a web catalog for Social Service.

*IMPULSA*

**May 2005**

- Program encourages young entrepreneurs IMPULSA.

## PUBLICATIONS

## 0.4. Peer Reviewed Conference Articles

- *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 Neighbor 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 España, July 2015.**
- *Rodrigo. López, V. Puig, H. 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 España, 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, Noviembre 2011.**
- *Juan Flores, Rodrigo Lopez, Julio Barrera.* Gravitational Interactions Optimization. In *Learning and Intelligent OptimizationN (LION 5)* **Roma, Italy - January 2010.**
- *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 (MICA I 2010)*, pages 361–370. Springer-Verlag. **Pachuca, México. November 2010.**

#### CONFERENCES

- Invited to the 10 Congreso Estatal de Ciencia, Tecnología e Innovación, en la Mesa 2.- Ciencias de la Ingeniería y Tecnología, modalidad
- 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).

#### 0.5. Courses, Workshops or Seminars Taken

- "5th HYCON2 (Taming Heterogeneity and Complexity) PhD School on Control of Networked and Large-Scale Systems and the EFFINET PhD School on Control of Drinking Water Networks (Lucca Italy, 1 to 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, From 8 to 12 of August 2011)
- Week of Systems and computation in the Instituto Tecnológico de Morelia. *Morelia, México (2006).*
- Week of Systems and computation in the Instituto Tecnológico de Morelia. *Morelia, México (2005).*