# Dr. Rodrigo López Farías (Updated: 29 / Feb / 2016)

Birthday: 8 / Jul / 1984

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Information Interests &

Personal

Skills

**Programming Lenguages** 

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

Research

Machine learning Data mining, Dimensionality reduction, Machine Learning, Time series, Nonli-

near dynamical systems, Global optimization, Evolutionary computing.

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

Academic DEGREE

PhD in Computer Science and Engineering (W. European Doctor Mention). Lucca, Italy. (February 2012 - January 2016)

#### 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 (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.

Engineer in Computational Systems. Morelia, Mexico (2002-2007)

#### Instituto Tecnologico de Morelia

- Thesis: Implementation and performance analysis of "Linux Terminal Server Project" for educational purposes.
  - Topic: Distributed operative Systems.

Academic EXPERIENCE Instituto Tecnológico de Morelia. Morelia, Mexico.

Teaching

August 2011 - January 2012

• Structured and Object Oriented Computer 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 of programming and research fundamentals. Universidad de Morelia. Morelia, Mexico.

Teaching

August 2009 - December 2009

• Web programming with PHP

# EXPERIENCE

PROFESSIONAL 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 applied to to basic education.

#### Instituto Tecnologico de Morelia. Morelia, Mexico.

Social Service Project

February 2007

• Develop of a PHP Web catalog for Social Service.

May 2005

• Young entrepreneurs program: IMPULSA.

#### Publications

#### Journal Articles

• Hector Rodriquez Rangel, Vicenc Puiq.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. Engineering Applications of Artificial Intelligence. Under review.

### Peer Reviewed Accepted 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 Neighbour Time Series Forecasting Technique IEEE Autumn Meeting on Power, Electronics and Computing Ixtapa México, November 2015.
- Rodrigo Lópea Farías, Vicenc Puig A Multiple-Model Predictor Approach Based on an On-Line Mode Recognition with Application to Water Demand Forecasting International workconference 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, Electróinca y Computación) Morelia México, Noviembre 2011.
- Juan Flores, Rodrigo Lopez, Julio Barrera. Gravitational Interactions Optimization. In Learning and Intelligent OptimizatioN (LION 5) Roma, 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 EFFI-NET 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)