Updated:

Rodrigo Lopez-Farias, Ph.D. *Computer Science and Engineering* *08/03/2021*

PERSONAL INFORMATION

Birthday: 8/Jul/984
Residence: Corregidora, Queretaro

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CURRENT JOB

Associate researcher of the National Council on Science and Technology (CONACyT) commissioned and working at the Center for Research of Geo-spatial Information Sciences (CentroGeo) (Since Nov 2017).

GRANTS AND DISTINCTIONS

Member of the Mexican System of Researchers (SNI) in the Candidate Category.

INTERESTS & SKILLS

Programming and Data Base Managing Languages
Python, R, Matlab, Mathematica, Java, C/C++, PHP-HTML-MySQL(SQL), CassandraDB (NoSQL, Cassandra Query Language).

Research
Time and spatio-temporal (geographic information) series modelling and prediction with machine learning (Artificial Neural Networks, Nearest Neighbors, Support Vector Machines). Multi-Model Prediction with probabilistic model selection. Heuristics for global and non-convex optimization applied to System Identification in Biology Systems.

Research groups and projects
Network of Applied Computational Intelligence. https://goo.gl/7B4RcE. Project of the Mexican Center of Energy Innovation in Electrical Power Systems: Forecasting the required natural resources for the production of renewable electric power. https://www.ineel.mx/.

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

ACADEMIC DEGREE

Ph.D. in Computer Science and Engineering. (With European Doctorate mention).
Institute: IMT School of Advanced Studies Lucca. Lucca, Italy. *(Feb/2012 - Jan/2016).*
Thesis: Time Series Forecasting Based on Classification of Dynamic Patterns.
Advisors: Ph.D. Alberto Bemporad. Ph.D. Pantelis Sopasakis.
Field of study: Time series analysis and modelling with machine learning.
Taken Courses: Semantics and formal methods. Algorithmic complexity. Basic linear algebra. Principles of parallel and concurrent computing. Performance modelling applied to Computer Networks. Specification, modelling and verification of reactive systems. Introduction to global and local optimization. Model checking. Optimum control, (Optimization Algorithms). Programming Methodologies with Python. Cloud Computing. Theory of complex networks. Machine Learning.

M.Sc. in Electrical Engineering (Computer Systems Group).
University: Michoacan University of San Nicolas de Hidalgo. (Universidad Michoacana de San Nicolas de Hidalgo). Morelia, Mexico. *(Mar/2008 - Aug/2010).*
Thesis: Bifurcation Diagrams for Discontinuous or Non-differentiable Equations.
Advisors: Ph.D. Juan Jose Flores Romero, Ph.D. Claudio Fuerte E.

Field of study: Evolutionary computing, unconstrained global optimization, nonlinear dynamical systems, stability analysis.

B.Eng. in Computer Systems.
Institute: Morelia Institute of Technology (Instituto Tecnológico de Morelia). Morelia, Mexico. *(2002-2007).*
Thesis: Implementation and performance analysis of **"Linux Terminal Server Project"** for educational purposes.
Field of Study: Applications of distributed operative systems.

Academic Experience

Teaching.

Queretaro Institute of Technology. Queretaro, Mexico.
- Internet of things (Computer Systems Engineering). *(Jan/2020 - May/2020).*

Morelia Institute of Technology. Morelia, Mexico.
- Programming (Electrical Engineering), Programming and Algorithms (Mechanical Engineering), Algorithms and Programming Languages (Industrial Engineering), Operative Systems II (Engineering Informatics)), Programming II (Electronic Engineering). *(Aug/2011 - Jan/2012).*
- Data structure and Organization (Information and Communication Technologies Engineering),Database fundamentals (Computer Systems Engineering) and Evaluation of software projects (Engineering Informatics). *(Jan/2011 - Jul/2011).*
- Operative systems, selected topics of programming and research fundamentals(Computer Systems Engineering). *(Aug/2010 - Dec/2010).*

University of Morelia (Universidad de Morelia). Morelia, Mexico.
- Web programming with PHP. *(Aug/2009 - Dec/2009).*

Professional Experience

Center for Research and Advanced Studies of the National Polytechnic Institute (CINVESTAV)
Department: Coordination and administration of Information and Communication Technologies Services (CGSTIC)
Activity: Application of machine learning algorithms for commercial conversational agents. Mexico City. (Oct/2016 - July/2017).

Michoacan University of San Nicolas de Hidalgo. (Oct/2015 - Oct/2016)
Department: Computer Center and University Information processes.
Activity: Web manager, programmer and collaborator for decision making for an efficient administration of university information.

Center for Information and Communications Technologies (CETIC). *(Mar/2007 - Jun/2007).* Morelia, Mexico.
Department: Infrastructure department.
Activity: Professional training in the project Performance analysis of **Linux Terminal Server Project** applied to to basic education.

Morelia Institute of Technology. Morelia, Mexico. *(Feb/2007)*
Activity: Social Service Project: Web catalog with PHP for Social Service.

PUBLICATIONS **Articles in Journals included in Journal Citation Reports**

Accepted

- **Application of network theory to study spatio-temporal evolution in the weekend effect in urban areas** *Iván Y. Hernández-Paniagua, Rodrigo López Farías, Juan A. Pichardo Corpus.* Atmósfera. doi: https://doi.org/10.20937/ATM.52993
- **Spatio-temporal Networks of light pollution** *Pichardo Corpus, Juan. A. and Solano-Lamphar, Hector and Lopez-Farias, Rodrigo, Delgadillo-Ruiz, Olivia.* Journal of Quantitative Spectroscopy and Radiative Transfer. (June/2020).
- **Soft Computing Methods with Phase Space Reconstruction for Wind Speed Forecasting—A Performance Comparison** *Flores, Juan. J. and Cedeño González, José R. and Rodríguez, Héctor and Graff, Mario and Lopez-Farias, Rodrigo and Calderon, Felix.* Energies. (doi: 0.3390/en12183545) (Sept/2019).
- **Increasing weekend effect in ground-level O3 in metropolitan areas of Mexico** *Iván Y. Hernández-Paniagua, Rodrigo Lopez-Farias, Jose J. Piña, Luis G. Ruíz-Suárez, Juan A. Pichardo-Corpus, Olivia Delgadillo, Agustín García-Reynoso, Arnoldo Flores-Torres, Alberto Mendoza.* Sustainability. (doi: 10.1109/ROPEC.2017.8261647) (Aug/2018).
- **Multi-Model Prediction for Demand Forecast in Water Distribution Networks** *Rodrigo López Farías, Vicenc Puig, Héctor Rodriguez Rangel, Juan J. Flores* Energies. doi:10.3390/en11030660. (Mar/2018).
- **Evolving Nearest Neighbor Time Series Forecasters.** *Juan J. Flores, José Cedeño Gonzalez, Rodrigo López Farías, Félix Calderón* . Journal of Soft Computing, DOI : 10.1007/s00500-017-2822-1. (Sept/2017).
- **Short-Term Demand Forecast using Bank of Neural Network Models Trained using Genetic Algorithms for the Optimal Management of Drinking Water Networks.***Hector Rodriguez Rangel, Vicenç Puig, Rodrigo López Farías, Juan J. Flores.* Journal of Hydroinformatics. DOI: 10.2166/hydro.2016.199. ISSN: 1464-7141 (Nov/2016).

Peer Reviewed Articles in Scientific and Technologic Divulgation Mexican Journals

Accepted

- **Sistema de Medición de Flujos de Agua Tolerante a Fallos en Redes de Distribución de Agua Potable Utilizando Inteligencia Artificial**, *H. Rodríguez Rangel, R. López Farías, G. Manjarrez Montelongo*, L. A. Morales Rosales y G. E. Peralta Peñuñuri. Komputer Sapiens, KS año 9 vol. 2, KS92, 2017, (Latin index).