

Luis F. Rivera

PhD Student



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Skills

Computer Languages & Frameworks

- **General:** Java, C#, C, SQL, R, Shell Script, Python, Go
- **Web Dev:** HTML5, CSS3, JavaScript, JQuery, .NET
- **Big Data:** Hadoop, HDFS, YARN, Pig, Hive, Oozie, HCatalog, Cloudera
- **Infrastructure as Code:** Terraform
- **Modelling:** EMF (basic), UML2, Eclipse Aceleo (basic), Eclipse Papyrus (basic)
- **Other:** Moodle, CourseSpaces, LaTeX, MS Office, Git, SVN, TFS, PSP (basic), TSP (basic), Visual Paradigm, Enterprise Architect, JUnit, JMeter

Technical Skills

- IoT
- UML
- Model-Driven Engineering
- Model-Driven Architecture
- Big Data Processing
- Architecture Design
- Continuous Delivery
- Data Mining
- Infrastructure Provision
- Object-Oriented Programming

Languages

- English (fluent)
- Spanish (native)

Honors & Awards

- **2019** Winner of DITA Hackathon (IBM & York University)
- **2019** CRA-URMD 2019 Grad Cohort Travel Scholarship
- **2019,2018** University of Victoria Fellowship Doctoral Degree
- **2016** Icesi University Fellowship Master's Degree
- **2010** Propal S.A. Partial-Tuition Scholarship Bachelor's Degree

Education

Since 2018	Ph.D. in Computer Science University of Victoria GPA: 4.00/4.00 Advisors: Hausi A. Müller, Norha M. Villegas Ongoing Research Area: Software Engineering for Digital Twins	Victoria, Canada
2016-2018	M.Sc. in Informatics and Telecommunications Icesi University GPA: 4.00/4.00 Advisors: Norha M. Villegas, Gabriel Tamura Thesis: UML-Driven Automated Software Deployment	Cali, Colombia
2010-2015	B.Eng. in Software Systems Icesi University GPA: 3.37/4.00 Advisor: Luis E. Munera Graduation Project: Vertical Fragmentation in DDBMS using Genetic Algorithms	Cali, Colombia

Experience

Sep 2018— Present	Graduate Research Assistant University of Victoria	Victoria, Canada
	Conduct and disseminate research on Software Engineering (SE) for Self-Adaptive Software Systems, SE at Run-Time, and SE for Digital Twins	
Sep 2018— Present	Teaching Assistant University of Victoria	Victoria, Canada
	Course: CSC 111 - Fundamentals of Programming with Engineering Applications Lectured labs that covered fundamentals of C programming such as variables, data and control flow, functions, operators, expressions, libraries, pointers, I/O operations, and basics of data structures	
	Course: CSC 370 - Database Systems Participated in the marking process of assignments related to database modelling and management using PostgreSQL	
Jul 2016— Jun 2018	Teaching Assistant Icesi University	Cali, Colombia
	Course: Software Engineering Lectured labs and conducted field trips to taught students different areas of Software Engineering such as Requirements Engineering, Detailed Design, Quality Assurance, Configuration Management, Agile Development, and the Software Development Process	
	Course: Software Design Patterns Lectured labs to help students consolidating knowledge about the use of creational, structural, and behavioural software design patterns for solving recurring problems when designing software systems	
Mar 2017— Dec 2017	Research Assistant Colombian Center for Excellency on Big Data & Data Analytics (CAOBA Alliance)	Cali, Colombia
	Researched challenges regarding the analysis and visualization of large graph-based datasets, and developed a prototype for an important banking entity in Colombia	
Mar 2016— Dec 2017	Graduate Research Assistant Icesi University	Cali, Colombia
	Conducted research on self-adaptive software systems and deployment automation using Model-Driven Engineering practices and techniques	
Jan 2015— Dec 2015	Software Engineer Tailor-made Software Development Area (CMMI-DEV Maturity Level 5), Carvajal Technology and Services	Cali, Colombia
	Performed multidisciplinary software development activities such as user requirements analysis, detailed and unit test design, codification and integration of software components, and deployment of applications	

Mentoring Experience

- **Undergraduate Degree Project Supervisor**, *An Intelligent Platform for Collecting & Processing Real-Time Data in Healthcare*, Icesi University, 2019
- **Capstone Project Supervisor (SENG 499)**, *BlueTape*, University of Victoria, 2019

Publications

Refereed Workshop Proceedings

- **Luis F. Rivera**, Miguel Jiménez, Prashanti Angara, Norha M. Villegas, Gabriel Tamura, and Hausi A. Müller. "Towards Continuous Surveillance and Personalized Medical Treatments in Precision Medicine through Digital Twins". Submitted to the 29th Annual International Conference on Computer Science and Software Engineering (CASCON). IBM, 2019. Rank: B1 (Qualis) Acceptance rate: 27%.
- Luis Berggrun, Juan Salamanca, Javier Díaz-Cely, César Loaiza, **Luis F. Rivera**, and Juan David Ospina. "Understanding and Visualizing Profitability and Money Propagation in Communities of Bank Clients". Proceedings of the World Finance Banking Symposium. In Press. 2019.
- **Luis F. Rivera**, Norha M. Villegas, Gabriel Tamura, Miguel Jiménez, and Hausi A. Müller. "UML-driven Automated Software Deployment". In: Proceedings of the 28th Annual International Conference on Computer Science and Software Engineering (CASCON). IBM, 2018, pp. 257–268. Rank: B1 (Qualis) Acceptance rate: 27%.

Refereed Symposium and Workshop Proceedings

- Miguel Jiménez, [Luis F. Rivera](#), Norha M. Villegas, Gabriel Tamura, Hausi A. Müller, and Nelly Bencomo. “[An Architectural Framework for Quality-driven Adaptive Continuous Experimentation](#)”. In: Proceedings of the IEEE/ACM Joint 4th International Workshop on Rapid Continuous Software Engineering and 1st International Workshop on Data-Driven Decisions, Experimentation and Evolution(RCoSE/DDrEE). In press. 2019.
- Miguel Jiménez, [Luis F. Rivera](#), Norha M. Villegas, Gabriel Tamura, Hausi A. Müller, and Pilar Gallego. “[DevOps’ Shift-Left in Practice: An Industrial Case of Application](#)”. In: Software Engineering Aspects of Continuous Development and New Paradigms of Software Production and Deployment. Ed. by Jean-Michel Bruel, Manuel Mazzara, and Bertrand Meyer. Springer, 2019, pp. 205–220.

Selected Posters and Presentations

- [Luis F. Rivera](#), Norha M. Villegas, and Hausi Müller. *Modelling Challenges of Digital Twins*. Poster at Joint Consortium for Software Engineering Research (CSER) 2019 Spring Meeting and 2nd Software Engineering for Machine Learning Applications (SEMLA), Montréal, Québec, Canada. May 2019.
- [Luis F. Rivera](#), Norha M. Villegas, and Hausi Müller. *A Vision for Digital Twin*. Poster at 2019 CRA Grad Cohort Workshop for Underrepresented Minorities + Persons with Disabilities (CRA URMD), Waikoloa Village, Hawaii, United States. March 2019.
- [Luis F. Rivera](#), Norha M. Villegas, and Hausi Müller. *MDA-Based Software Deployment*. Poster at Consortium for Software Engineering Research (CSER) 2019 Fall Meeting, Markham, Ontario, Canada. October 2019.
- [Luis F. Rivera](#), Norha M. Villegas, and Gabriel Tamura. *UML-Driven Automated Software Deployment*. Poster at 12th Colombian Conference on Computing (CCC) Master and Doctoral Symposium, Cali, Valle del Cauca, Colombia. September 2017.