

# Mauricio Verano Merino

PHD CANDIDATE

Eindhoven, The Netherlands

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## Research Interests

Software Language Engineering, Software Engineering, Cloud Computing, Model-driven Development, Internet of Things, Model-based Software Re-engineering, Micro-service Oriented Architectures, Software architecture, and Service Oriented Architecture.

## Work Experience

### PhD Candidate

Eindhoven, The Netherlands

EINDHOVEN UNIVERSITY OF TECHNOLOGY & CANON PPP

Sep. 2016 - Present

- Development of generic graphical user interfaces (GUIs) for interacting with code
- Development of a language parametric notebook generator for Domain-Specific Languages.
- Designed a generic bridge for using a textual language within a projectional language workbench.
- Instructor of the course: *Programming for Data Science (JBI010)* at TU/e.

### Instructor

Bogotá, Colombia

UNIVERSIDAD DE LOS ANDES

Jul. 2015 - Aug. 2016

- Implemented a research project semi-automated Java generator using Model Driven Engineering.
- Taught the bachelor course on algorithms and Object-Oriented Programming I (CS1). This is the first programming course and its objective is centered on teaching main concepts and tools required to solve problems, through software development. This course is taken by all students from Schools of Engineering, Mathematics, and Physics.

### Graduate Research Assistant

Bogotá, Colombia

UNIVERSIDAD DE LOS ANDES

Jan. 2014 - Jun. 2015

- Project in collaboration with Heinsohn Business Technology.
- Redesign of existing software architectures and their successful deployment in the cloud.
- Web load and stress testing for measuring different quality attributes (e.g., performance, scalability, availability) in different software architectures.
- Evaluation of different cloud providers, programming languages, and web frameworks to determine which ones favor or disfavor scalability and performance requirements.
- Design and development of a software product line for financial applications.
- Design and development of new software modules that need to coexist with already developed modules.

### Software Engineer Internship

Bogotá, Colombia

TAPPSI

Jun. 2013 - Jul. 2013

- Implemented back-end core functionalities using Ruby on Rails and deploying them in a cloud provider.

### Teaching Assistant

Bogotá, Colombia

UNIVERSIDAD DE LOS ANDES

Jan. 2011 - Jul. 2015

- **Course:** Software Architecture - Course part of the Specialization in Software Construction.
- **Course:** Software Architecture and Design - Bachelors level course.
- **Course:** Team Software Development - Bachelors level course.
- **Course:** Algorithms and Object-Oriented Programming II (CS2) - Bachelors level course.
- Design and development of workshops and laboratories.
- Grading of assessments and project deliverable.
- Teaching mentorship classes.

## Publications

### Block-Based Syntax from Context-Free Grammars [To appear]

Chicago, IL, USA

THE 11TH ACM SIGPLAN INTERNATIONAL CONFERENCE ON SOFTWARE LANGUAGE ENGINEERING (SLE) 2020

Nov. 2020

Mauricio Verano and Tijs van der Storm

### A principled approach to REPL interpreters [To appear]

Chicago, IL, USA

ONWARD!2020

Nov. 2020

L. Thomas van Binsbergen, Mauricio Verano, Pierre Jeanjean, Tijs van der Storm, Benoit Combemale, and Olivier Barais

### Book chapter: Projecting Textual Languages [Under review]

DOMAIN-SPECIFIC LANGUAGES IN PRACTICE WITH JETBRAINS MPS

2020

Mauricio Verano, Jur Bartels, Mark van den Brand, Tijs van der Storm, and Eugen Schindler

### **Bacatá: Notebooks for DSLs, Almost for Free**

THE ART, SCIENCE, AND ENGINEERING OF PROGRAMMING

Mauricio Verano, Jurgen Vinju, Tijs van der Storm

Porto, Portugal

Feb. 2020

### **Bacatá: a language parametric notebook generator (tool demo)**

THE 11TH ACM SIGPLAN INTERNATIONAL CONFERENCE ON SOFTWARE LANGUAGE ENGINEERING (SLE) 2018

Mauricio Verano, Jurgen Vinju, Tijs van der Storm

Boston, MA, USA.

Oct. 2018

### **Language Workbench Support for Block-Based DSLs**

BLOCKS+

Mauricio Verano and Tijs van der Storm

Boston, MA, USA.

Oct. 2018

### **Bacatá: a generic notebook generator for DSLs**

DOMAIN-SPECIFIC LANGUAGE DESIGN AND IMPLEMENTATION WORKSHOP '17

Mauricio Verano, Jurgen Vinju, Tijs van der Storm

Vancouver, Canada

Oct. 2017

### **Cost comparison of running web applications in the cloud using monolithic, microservice, and AWS Lambda architectures.**

SERVICE ORIENTED COMPUTING AND APPLICATIONS

Mario Villamizar, Oscar Garcés, Lina Ochoa, Harold Castro, Lorena Salamanca, Mauricio Verano, Rubby Casallas, Santiago Gil, Carlos Valencia, Angee Zambrano, Mery Lang

Vancouver, Canada

Jun. 2017

### **Searching Optimal Configurations within Multiple Feature Models: a Cloud Computing Case Study.**

THE 35TH INTERNATIONAL CONFERENCE ON CONCEPTUAL MODELING (ER)

Lina Ochoa-Venegas, Oscar González-Rojas, Mauricio Verano, and Harold Castro

Bogotá, Colombia

Nov. 2016

### **Infrastructure Cost Comparison of Running Web Applications in the Cloud using AWS Lambda and Monolithic and Microservice Architectures.**

THE 16TH IEEE/ACM INTERNATIONAL SYMPOSIUM ON CLUSTER, CLOUD AND GRID COMPUTING (CCGRID)

Mario Villamizar, Oscar Garcés, Lina Ochoa, Harold Castro, Lorena Salamanca, Mauricio Verano, and Rubby Casallas

Cartagena, Colombia

May. 2016

### **Re-architecting a JEE On-premise Web Application to Deploy it in the Cloud.**

THE 4TH IEEE INTERNATIONAL WORKSHOP ON CLOUD COMPUTING SYSTEMS, NETWORKS, AND APPLICATIONS (CCSNA)

Mauricio Verano, Lorena Salamanca, Rubby Casallas, Mario Villamizar, Oscar Garcés, Lina Ochoa, Harold Castro, Angee Zambrano, Carlos Valencia, and Santiago Gil

San Diego, CA, USA.

Dec. 2015

### **Evaluating the Monolithic and the Microservice Architecture Pattern to Deploy Web Applications in the Cloud.**

THE 10TH COMPUTING COLOMBIAN CONFERENCE (10CCC)

Mario Villamizar, Oscar Garcés, Harold Castro, Mauricio Verano, Lorena Salamanca, Rubby Casallas, and Santiago Gil

Bogotá, Colombia

Sept. 2015

## **Education**

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### **M.Sc. in Software Engineering**

UNIVERSIDAD DE LOS ANDES

- Thesis title: Migrating JEE applications to a microservice-based architecture deployed in the cloud
- GPA: 4.44/5.0

Bogotá, Colombia

Jan. 2014 - Jun. 2015

### **B.S. in Systems and Computer Engineering**

UNIVERSIDAD DE LOS ANDES

- Thesis title: Web platform for the parallel execution of optimisation algorithms
- Followed additional courses from the school of design
- GPA: 3.97/5.0

Bogotá, Colombia

Aug. 2009 - Dec. 2013

# Personal Skills

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## Mother tongue

SPANISH

## Other languages

ENGLISH (B2), DUTCH (A2), FRENCH (A1)

## Operating systems

MAC OSX, UBUNTU, AND WINDOWS.

## Technical skills

JAVA, RUBY, PYTHON, RASCAL, EPSILON, XTEXT, JAVASCRIPT, SQL, JAX-RS, JEE, PLAY FRAMEWORK, RUBY ON RAILS, DJANGO, ANGULARJS, MAVEN, CSS, HTML, POSTGRESQL, MYSQL, MONGODB, GIT, GLASSFISH, JETTY, HUDSON, SONAR, DOCKER, PROCESSING, AND WIRING.

## Cloud providers

AMAZON WEB SERVICES, RACKSPACE, AZURE, GOOGLE COMPUTE ENGINE, GOOGLE APP ENGINE, HEROKU, JELASTIC, AND CLOUDBEES.

# Additional Information

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## CERTIFICATIONS

- 2020

Video Analysis, Barça Innovation Hub - Universitas
- 2020

Introduction to Talent Identification, The Football Association
- 2009

Key English Test (KET),

Language exam
- 2009

International Baccalaureate Certificate, In: English, Spanish and Philosophy

# Awards

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- 2009

IBM System i administrator scholarship,

Scholarship

# Sports

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- 2000-2006

Ex-player of the Colombian Tennis Federation - 2000/2006,
- 2007-2009

Ex-player of the Bogotá Football League - 2007/2009,