

# Sebastian Alejandro Velasco Dimate

PHD GRADUATE STUDENT

## Details

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## Links

[Website](#)  
[LinkedIn](#)  
[Github](#)  
[Github](#)

## Skills

Java  
Spring Boot  
JavaScript  
React  
Angular  
Ruby On Rails

## Languages

Spanish  
English

## Profile

PhD Student of Computer Science. Experienced Software Developer Engineer adept in building reactive, smart and resilient applications. His research interest include Software Engineering, Machine Learning, Deep Learning Interpretability and Representation.

## Employment History

### Graduate Fellow, Computer Research Association - CRAE

JUNE 2023

- Managing the research highlights series
- Contributing to CRA-E's social media
- Providing a graduate student perspective for material on the [CRA-E's Conquer site](#).

### Teaching Assistant, William and Mary, Williamsburg, VA

AUGUST 2022

- Software Engineering
- Programming for Data Science

### Technical Leader, MercadoLibre, Bogota

JULY 2021 – AUGUST 2022

CPFR - First Party, Marketplace  
Collaborative Planning, Forecasting and Replenishment

#### Responsibilities

- Support interoperability with Machine Learning Models to ensure the Forecasting and Replenishment of MercadoLibre products in the Marketplace.
- Design, Implement and Test Micro-Services in software products of MercadoLibre.
- Artifacts deployment support in development, test and production environments.
- Actively participate in team sessions (requirement analysis, architecture reviews, services design, planning)
- Elaborate documentation including design and operational support documents.

Key words: Java, Go, Spring Boot, GCP, AWS, Fury, Docker, Kafka, No-SQL, Webflux

### Sr Advanced Software Development Engineer, ScotiaBank Colpatría, Bogotá

DECEMBER 2020 – JULY 2021

#### Responsibilities

- Design, implement and test Full-Stack applications for software products of ScotiaBank - Colpatría.
- Design, implement and test authentication and authorization micro-services in software products of ScotiaBank - Colpatría.
- Artifacts deployment support in development, test and production environments.
- Actively participate in team sessions (requirement analysis, architecture reviews, services design, planning)

- Elaborate documentation including design and operational support documents.

Key words: Java, Spring Boot, AKKA, Docker, Angular, React, Git.

## **Sr Software Development Engineer, ScotiaBank Colpatría, Bogotá**

DECEMBER 2018 – DECEMBER 2020

### Responsibilities

- Design, implement and test authentication and authorization micro-services in software products of Scotiabank - colpatría.
- Artifacts deployment support in development, test and production environments.
- Actively participate in team sessions (requirement analysis, architecture reviews, services design, planning)
- Elaborate documentation including design and operational support documents.

Key words: Java, Spring Boot, AKKA, Docker, Angular, React, Git.

## **Professor, Universidad Nacional de Colombia, Bogotá**

JANUARY 2018 – AUGUST 2019

### Software Engineering II

#### Course Goals

- Distinguish clearly between software processes based on classic models and agile methods.
- Understand fundamentals of Web development and Cloud solutions.
- Apply and Reinforce teamwork abilities and agile frameworks.
- Create a Web application with Back-end and a Front-end components

Key words: React, JavaScript, Ruby on Rails, Git, Cloud Solutions, Agile Development.

## **Professor, Universidad Nacional de Colombia, Bogotá**

AUGUST 2018 – DECEMBER 2018

### Data Structures

#### Course Goal

- Understand main Data-Structure concepts and ADTs.
- Implement Data-Structures and algorithms using Java as programming language.
- Solve problems using Data-Structures.

Key words: Data Structures, Algorithms, Java.

## **Lead Software Development Engineer (Full Stack), HighTech Software, Bogotá**

NOVEMBER 2017 – DECEMBER 2018

### Responsibilities

- Design and implement distributed services and applications in Fin-tech software products.
- Support the deployment of artifacts in development, test and production environments.
- Actively participate in team sessions (requirement analysis, architecture reviews, services design, planning) .
- Elaborate documentation including design and operational support documents.
- Support team members in software development of task during sprint.

Java, Angular, JavaScript, REST, SOAP.

### **Professor, Universidad Nacional de Colombia, Bogotá**

JULY 2016 – DECEMBER 2017

#### Object Oriented Programming

Course Goals.

- Understand and apply fundamental principles of object-oriented programming.
- Solve programming problems using the OOP paradigm, and SOLID principles.
- Write programs in Java using IDEs features to edit, compile, test, debug and deploy.
- Build medium-sized standalone applications, working as members of small teams.

Object Oriented Programming, SOLID, Java, Team Development.

### **Software Developer, MyCreateam, Bogotá**

JANUARY 2016 – JUNE 2016

#### Responsibilities

- Develop back-end applications and mobile MVPs.
- Actively participate in team sessions (requirement analysis, architecture reviews, services design, planning).

Key words: Java, Angular, Rails, Python.

### **Software Developer, Liminal, Bogotá**

MARCH 2016 – JULY 2017

#### Responsibilities

- Design, implement and test monolithic applications in software products.
- Elaborate documentation including design and operational support documents.

Key words: Java, PostgreSQL, REST, SOAP, Angular, JavaScript

### **Teaching Assistant, Universidad Nacional de Colombia**

FEBRUARY 2015 – NOVEMBER 2015

Data Structures Course.

### **Teaching Assistant, Universidad Nacional de Colombia, Bogotá**

JUNE 2015 – AUGUST 2015

Software Evolution and Maintenance

### **Software Developer, Universidad Nacional de Colombia - Direccion Nacional de Admisiones, Bogotá**

JUNE 2014 – DECEMBER 2014

#### Responsibilities

- Redesign and Implement the web page of the Direccion Nacional de Admisiones
- Update the site architecture and keep safe the information.
- Document all the work.

Key words: Java, JavaScript, HTML.

### **Teaching Assistant, Universidad Nacional de Colombia, Bogotá**

FEBRUARY 2014 – NOVEMBER 2014

Object Oriented Programming Course.

## Education

**(BSc) Ingeniería de Sistemas y Computación, Universidad Nacional de Colombia, Bogotá**

JANUARY 2011 – DECEMBER 2015

**(MSc) Magister en Ingeniería de Sistemas y Computación, Universidad Nacional de Colombia, Bogotá**

FEBRUARY 2016 – AUGUST 2019

**PhD, College of William and Mary**

AUGUST 2022

## Extra-curricular activities

**Researcher, Universidad Nacional de Colombia, Bogotá**

JANUARY 2013 – DECEMBER 2019

COLSWE - Colectivo de Investigacion en Ingeniería de Software

**Researcher , William and Mary**

AUGUST 2022

SEMERU - Software Engineering Maintenance and Evolution Research Unit

## Publications

**Evolving a Project-based Software Engineering Course: A Case Study**

2017

D. Delgado, A. Velasco, J. Aponte and A. Marcus, "Evolving a Project-Based Software Engineering Course: A Case Study," *2017 IEEE 30th Conference on Software Engineering Education and Training (CSEE&T)*, Savannah, GA, 2017, pp. 77-86.

<https://ieeexplore.ieee.org/document/8166686>

**Recovering Fine Grained Traceability Links between Software Mandatory Constraints and Source Code**

2019

Velasco A., Aponte Melo J.H. (2019) Recovering Fine Grained Traceability Links Between Software Mandatory Constraints and Source Code. In: Florez H., Leon M., Diaz-Nafria J., Belli S. (eds) *Applied Informatics. ICAI 2019. Communications in Computer and Information Science*, vol 1051. Springer, Cham.

[https://link.springer.com/chapter/10.1007/978-3-030-32475-9\\_37](https://link.springer.com/chapter/10.1007/978-3-030-32475-9_37)

**Automated Fine Grained Traceability Links Recovery between High Level Requirements and Source Code Implementations**

AUGUST 2020 – AUGUST 2020

VelascoA. and AponteJ., "Automated Fine Grained Traceability Links Recovery between High Level Requirements and Source Code Implementations", *paradigmplus*, vol. 1, no. 2, pp. 18-41, Aug. 2020.

<https://journals.itiud.org/index.php/paradigmplus/article/view/12>

**Applying Machine Learning with Chaos Engineering**

OCTOBER 2020 – OCTOBER 2020

Oct 18, 2020 publication description 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW)

J. Hernández-Serrato, A. Velasco, Y. Niño, M. Linares-Vásquez, "Applying Machine Learning with Chaos Engineering," in Proceedings of the 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW), October 2020, pp. 151 -152, doi: 10.1109/ISSREW51248.2020.00057

J. Hernández-Serrato, A. Velasco, Y. Niño, M. Linares-Vásquez, "Applying Machine Learning with Chaos Engineering," in Proceedings of the 2020 IEEE International Symposium on Software Reliability Engineering Workshops (ISSREW), October 2020, pp. 151 -152, doi: 10.1109/ISSREW51248.2020.00057

### **Evaluating and Explaining Large Language Models for Code Using Syntactic Structures**

AUGUST 2023

D. N. Palacio, A. Velasco, D. Rodríguez-Cardenas, K. Moran, and D. Poshyvanyk, "Evaluating and Explaining Large Language Models for Code Using Syntactic Structures." arXiv, Aug. 07, 2023. doi: [10.48550/arXiv.2308.03873](https://doi.org/10.48550/arXiv.2308.03873).