

# Meili Vanegas Hernández

Bogotá, Colombia

[m.vanegas10@uniandes.edu.co](mailto:m.vanegas10@uniandes.edu.co)

[mvanegas10.github.io](https://mvanegas10.github.io)

---

## Education

Universidad de los Andes.

Bogotá, Colombia

- **Master's Degree**      **International Student Exchange Program**      **August 2017 - June 2018.**
- **Master's Degree**      **Systems & Computing Engineering**      **January 2017 - December 2018 (Expected).**  
GPA: 4.33 (5.0 scale)
- **Bachelor's Degree**      **Systems & Computing Engineering**      **July 2012 - December 2016.**      **GPA: 4.08**  
(5.0 scale)
- **Interests:** Visual Analytics, Big Data, Computer Networking, Image Analysis and Processing, Business Intelligence, Urban Systems, Arts.

Gimnasio Vermont.

Bogotá, Colombia

- **High School, Summa Cum Laude**      **June 2012**
- 

## Professional Experience

Research Assistant

TU Kaiserslautern. Kaiserslautern, Germany

- [Computer Graphics and HCI Group, University of Kaiserslautern](#) (August 2017 - Present): Developing research activities and software development oriented computer graphics and HCI.

Research Assistant

Alianza Caoba . Bogotá, Colombia

- [Alianza Caoba: Centro de Excelencia y apropiación en Big Data y Data Analytics](#) (January 2017 - August 2017): Developing research activities, state of art review and software development oriented in Big Data and Data Analytics.

Research Internship

Université de Nice Sophia Antipolis. Nice, France

- [I3S Laboratory](#) and [ESPACE Laboratory](#) (June 2016 - July 2016): Working in the project Transport Oriented Modeling for urban densification Analysis (TOMSA)/ECOS Nord. Building a urban decision support platform, which holds a simulation based on an multi-agent urban model of densification implemented in Java and a visual analytics tool using PostgreSQL, PostGIS, NodeJS, JavaScript, HTML and CSS.

Research Assistant

Universidad de los Andes. Bogotá, Colombia

- [IMAGINE research team](#) (January 2016 - December 2016): Working as undergraduate researcher for the image processing research team at Universidad de los Andes, performing visual analytics in urban systems, centered on analyzers and researchers as end users. Developing a web application using PostgreSQL, PostGIS, NodeJS, JavaScript, HTML and CSS.

Teaching Assistant

Universidad de los Andes. Bogota, Colombia

- [Web Development](#) (January 2017 - Present): Supporting students project's methodology and grading, and teaching visualization basics. Some of the technologies and languages worked during this class were HTML, CSS, JAVASCRIPT, MONGO, REACTJS, METEOR, and D3.
- [Business Intelligence](#) (August 2016 - December 2016): Teaching basic analytics. Proposed different scenarios to help students learn basics of ETL processes, dimensional modelling and Machine Learning.
- [Computer organization](#) (January 2015 - December 2015): Teaching basic computer organization, its components, functions and interaction. Designed project assignments to help students learn basic x86 Assembly language programming and C, to perform tasks such as data encryption in sound and image media.

- [Object Oriented Programming II](#) (July 2014 - December 2014): Teaching Object-Oriented Programming patterns, implementing searching and sorting algorithms in Java, recursions, and the use of binary trees and other basic data structures to solve practical CS problems, and Java GUI programming.
- [Decision support systems](#) (July 2013 - May 2015): Teaching decision support using computing tools. Modeling and simulating real industrial engineering problems in Visual Basic.

---

## Technical experience

- [Así es el país que votó No](#): [JavaScript, Python, Jupyter Notebooks, HTML, CSS] Visual Analytics tool that shows the correlation of demographic variables over different towns of Colombia and the results of the National Peace Agreement Referendum of 2016. Public available code: [Github](#).
- [Erosion identification from Landsat images](#): [Python] Image processing using satellite acquired images to identify erosion in mining regions in Colombia. Public available code: [Github](#).
- [Urban Agent-Based Model](#): [NodeJS, Java, PostgreSQL, PostGIS] Proposed a Urban Agent-Based Model (ABM) to simulate the relocation of households under a spatial and possibilistic scenario. Public available code: [Github](#).
- [Data encryption over multimedia](#): [C & x86 Assembly] Data encryption system development, using bit manipulation, pointers, and dynamic memory management to manipulate data and save it on images and sound. Public available code: [Github](#).

---

## Languages and technologies

- Spanish (Native), English (TOEFL iBT 90/120), French (Basic A1)
- Python, JavaScript, C, SQL, Swift, MATLAB, Java, Visual Basic, HTML, CSS.
- NodeJS, D3.js, C3.js, Leaflet, QGIS, Sublime, L<sup>A</sup>T<sub>E</sub>X, PostgreSQL, PostGIS, Jupyter Notebooks, Django, IntelliJ IDEA, Play Framework, Tableau, Visual Studio, Eclipse, Netbeans, Adobe Illustrator.

---

## Achievements

- [Hackathon IBM, Dirección Nacional de Planeación de Colombia \(DNP\), Universidad de los Andes and Alianza CAOBA \(Winner\), 2016](#): My team won the IBM's Hackathon Cognitiva in which we proposed a Visual Analytics tool with Colombian's government open data.
- **IT Innovation Contest (Finalist), Universidad de los Andes, 2015**: Won 2nd place in *Concurso de Innovación en TI (IT Innovation Contest)* at Universidad de los Andes for our soccer score prediction system *betgram*.
- **Summa Cum Laude, Gimnasio Vermont, 2012**: Received this award for the development of my extended essay in mathematics. The research aimed to pursuit an algorithm to calculate the  $n$ th root of any real number.
- **International Baccalaureate, 2012**: Finalized the two-year *International Baccalaureate Diploma Programme* with a total score of 27/45.