

# Meili Vanegas-Hernandez

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

**Interests:** Data Analytics, Machine Learning, Visual Analytics, Big Data, Image Analysis and Processing, Business Intelligence, Urban Planning, Arts.

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## Education

### M.S. Systems & Computing Engineering

- **TU Kaiserslautern. Kaiserslautern, Germany** (August 2017 - June 2018) International Student Exchange Program.
- **Los Andes University. Bogota, Colombia** (August 2017 - June 2018) GPA: 4.30 (5.0 scale).

### B.S. Systems & Computing Engineering

- **Los Andes University. Bogota, Colombia** (July 2012 - December 2016) GPA: 4.08 (5.0 scale).

### International Baccalaureate

- **Gimnasio Vermont. Bogota, Colombia** (July 2010 - June 2012) IB Score: 27/45.
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## Professional Experience

### Research Assistant

- [Computer Graphics and HCI Group](#) at **TU Kaiserslautern. Kaiserslautern, Germany (August 2017 - Present)**:  
Working in research activities and software development oriented in Computer Graphics for manufacturing processes. Developing my master thesis along with a group of bioinformaticians supporting classification of new species.
- [Alianza Caoba. Bogota, Colombia](#) (January 2017 - August 2017):  
Developing research activities, state-of-the-art review and software development oriented in Big Data and Data Analytics. Participating in a project along with the Secretary of Finance in Bogota to grade taxpayers in property taxes.
- [IMAGINE Research Team](#) at **Los Andes University. Bogota, Colombia (January 2016 - December 2016)**:  
Working as undergraduate researcher for the image processing research team at Los Andes University, performing visual analytics in urban planning.

### 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.

### Teaching Assistant

**Los Andes University. Bogota, Colombia**

- Web Development (1 semester), Business Intelligence (1 semester), Computer Organization (2 semesters), Object Oriented Programming II (1 semester), Decision Support Systems (4 semesters).

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## Technical experience

- **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](#).
- **Erosion identification from Landsat images:** [Python] Image processing using satellite acquired images to identify erosion in mining regions in Colombia. Public available code: [Github](#).
- **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](#).

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## Languages and technologies

- Spanish (Native), English (TOEFL iBT 90/120), French (Basic A2), German (Basic A1).
- Python, Java, JavaScript, C, SQL, Swift, MATLAB, Visual Basic, HTML, CSS.
- NodeJS, Jupyter Notebooks, MongoDB, Django, D3.js, C3.js, Unix shell, Leaflet, AngularJS, ReactJS, QGIS, Sublime, L<sup>A</sup>T<sub>E</sub>X, PostgreSQL, PostGIS, IntelliJ IDEA, Play Framework, Tableau, Visual Studio, Eclipse, Netbeans, Adobe Illustrator.

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## Achievements

- **IBM, DNP, Los Andes University and Alianza CAOBA's Hackathon (Winner), 2016:** My team won the IBM's [Hackathon Cognitiva](#) in which we proposed a Visual Analytics tool for Colombian's government open data.
- **IT Innovation Contest (Finalist), Los Andes University, 2015:** Won 2nd place in *Concurso de Innovación en TI (IT Innovation Contest)* at Los Andes University 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.