

Sebastian Ernesto Sierra Loaiza

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EDUCATION

Systems and Computing Engineer
National University of Colombia, Bogotá Campus
Concentration: Computer Science
Grade Average: 3.9 (Max grade is 5).

Student of second year of MSc. in Systems and Computing Engineering
National University of Colombia, Bogotá Campus
Grade Average: 4.4 (Max grade is 5).

EXPERIENCE

MindLab Research Group - Research Programmer April 2016 - Present in Bogotá
Working as a research programmer under Colciencias project *Desarrollo de un sistema informático para la búsqueda sistemática de fuentes naturales para la elaboración de bioproductos*. Supported requirements elicitation process for the *Bioprospectus* software. Designed and developed algorithms for text analysis, text mining and information retrieval on Java and Python using Backbone, Elastic Search, Redis, MongoDB and MySQL. Also supported the software testing process. During this time I have been working on my MSc Thesis under the title *Text classification using learned distributed representations with neural networks*, applying Convolutional neural networks and Recurrent neural networks to text classification tasks such as authorship attribution, paraphrase identification and sentiment analysis.

MindLab Research Group - Research Programmer May 2014 - March 2016 in Bogotá
Worked as a research programmer under Colciencias project *Diseño e implementación de un sistema de cómputo sobre recursos heterogéneos para la identificación de estructuras atmosféricas en predicción climatológica*. Designed and implemented Machine Learning models on Matlab and Python for classification of atmospheric phenomena. Also developed parallelized strategies for detection and categorization of atmospheric phenomena using Apache SPARK. The results were presented at the 20th Iberoamerican Conference on Pattern Recognition, CIARP 2015, with the title *Classification of low-level atmospheric structures based on a pyramid representation and a machine learning method*.

Facultad de Ciencias Agrarias Universidad Nacional de Colombia - Programmer May - Oct 2013 in Bogotá
Responsible for the overall performance of the web page of the *Facultad de Ciencias Agrarias*. Another duties included performing several changes in order to meet functional requirements and publishing graphical and multimedia pieces on the web page. Developed mainly on HTML and Javascript.

Instituto de Biotecnología Universidad Nacional de Colombia- Programmer Oct 2012 - Jan 2013 in Bogotá
Under the Center of Bioinformatics of the Institute maintained up-to-date several collections of species using MySQL as RDBMS. These collections had to be visualized from the main page of the Center of Bioinformatics by several researchers.

MAJOR SCHOOL PROJECTS

- EscalArte: An app developed during the Mobile Apps development course intended to integrate athletes, climbing gyms and everybody related somehow to the activity of climbing.

TECHNICAL SKILLS

Languages & Software: Proficient programming skills in Matlab, Python, Java, Javascript, Bash and HTML.

Big data frameworks: Apache SPARK.

Operating Systems: Windows(User) and Unix based (User and administrator).

DBMS: MySQL, MongoDB and Redis.

Machine learning frameworks: Keras, Blocks, Scikit-learn, Caffe and Theano.

AWARDS AND LEADERSHIP

Volunteer teacher for the *Pre-Icfes Popular de Kennedy* project, here I taught math to young public school students who wanted to go to college - 2012.

T.A. for the Software Engineering I Course at National University - 2011-I

GRADUATE COURSES

- Machine Learning
- Natural Language Processing and Text Mining
- Mobile Apps development
- Artificial Life
- Advanced Topics on Algorithms
- Advanced Topics on Software Engineering
- Geomatics
- Information Retrieval