

# Jose Sergio Hleap



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[jshleap.github.io](http://jshleap.github.io)

## SKILLS

**Programming:** Python, BASH, R, LaTeX, SQL

**Tools & packages:** Pandas, Scipy, Numpy, Ipython, Scikit-learn, Git, Matplotlib, python-igraph, statsmodels, Jupyter, Dask, Bokeh, MASS, lme4, ggplot, SVN, WingIDE, HPC, Torque, SLURM, BeautifulSoup, Flask, NLTK, Gensim, GCP.

## EXPERIENCE

**High Performance Computing Technical Consultant** - SHARCNET, Guelph, ON

January 2020 - present

- Lead the deployment of the Genomics Experimental Platform, a 3 node cluster to test the IBM platform for genomic analyses, aimed to serve the bioinformaticians that use Compute Canada resources (in progress).
- Resolved over 40 support tickets ranging from bioinformatics to programming issues and of usage of the cluster.
- Taught Python fundamentals in SHARCNET's summer school with over 200 participants.
- Lead developer in the generation of a program for proteome annotation (in progress).

**Fellow** - Insight Data Science, Toronto, ON

September 2019 - December 2019

- Deployed a dashboard using Bokeh in Python to extend and discover keyword candidates for GoogleAds.
- Used NLP and Google API text mining to extract relevant corpora for topic modelling and keyword selection.
- Provided optimal combination of keywords that maximizes impressions while minimizing daily cost.

**Postdoctoral Fellow (Gravel Lab/Cristescu Lab)** - McGill University, Montreal, QC

July 2016 - December 2019

- Developed over 7 bioinformatic data analysis programs to analyze biological data, resulting in better understanding of genomic architecture in humans (Gravel Lab) and eDNA and mutation dynamics in model organisms (Cristescu Lab).
- Managed the lab's data (genomic information, next generation sequencing data), reducing data redundancy by 30%.
- Solved bigger than memory issues using GNU parallel and DASK for genotyping and next generation sequencing data.
- Improved the bioinformatic knowledge of 20 graduate students in bioinformatics, high performance computing, and BASH usage, resulting in 20% more independent work in the lab.

**PhD Candidate** - Dalhousie University, Halifax, NS

September 2010 - May 2016

- Analyzed protein structure data through a modularity analysis framework using graph theory in python, and scripts for the inference of response to selection in protein structures in python and R (repos: StructBio, Moduler).
- Managed the lab (4 graduate students and 2 undergraduate students) for 1 year during the PI leave of absence.
- Supervised 1 master student during his research of the evolution of a gene family in a taxonomic group of sharks.

**Member of the Board of Directors** - SQUALUS foundation, Cali, Colombia

January 2007 - Present

- Implemented high-level strategic planning and created specific roles for management of resources and infrastructure, focused on identifying and aligning foundation programs with organizational goals.
- Defined organizational problems, and implemented plans to correct problems such as the creation of a stronger organization, generation of the logistics supervisor position, and the determination of minimum productivity scale.
- Wrote and executed over US\$36000 in research grants.

**Natural Sciences Chief** - Anglo-americano school & The British School, Cali, Colombia

January 2005 - June 2007

- Managed over 5 natural science teachers, assigned their schedules, supervised their teaching and gave periodic professional development days to keep the scientific knowledge current.
- Developed the natural science curricula at The British School, which gave the school a local award for its quality.

## EDUCATION

**Dalhousie University, Halifax, NS** - Doctor in Biochemistry & Molecular Biology

September 2010 - May 2016

**Universidad del Valle, Cali, Colombia** - Master in Science, Biology

August 2007 - December 2010

**Universidad del Valle, Cali, Colombia** - Biologist

August 1999 - December 2005