Jose Sergio Hleap

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SKILLS

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

EXPERIENCE

Fellow - *Insight Data Science, Toronto, ON* **September 2019 - Present**

- 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 (Cristescu Lab) - *McGill University, Montreal, QC* **June 2019 - Present**

- Developed over 5 data analysis pipelines (repos: CristescuLab, pyndada) and multiple scripts in BASH and Python to analyze genomic, phylogenomic, and environmental data, helping to understand the ecology of environmental DNA, patterns of speciation, and how mutation accumulation affect genome.
- Managed over 10 Tb of data from genomic information to next generation sequencing data, reducing data redundancy by 30%.
- 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.

Postdoctoral Fellow (Gravel Lab) - *McGill University, Montreal, QC* **July 2016 - June 2019**

- Developed multiple scripts in Python and bash to analyze human genomics data in the context of multiethnic genomic wide association analyses, culminating in a better understanding of genomic architecture (repos: Cottaging_playground, pyrs).
- Solved bigger than memory issues through GNU parallel pipelines and DASK computing for genotyping and next generation sequencing data.
- Communicated the complexity of human genomic architecture to a wide audience through 3 presentations at national conferences.

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 a pipeline for the inference of response to selection in protein structures (repos: StructBio, Moduler).
- Managed the lab (4 graduate students and 2 undergraduate students) for 1 year.
- Supervised 1 master student during his research of the evolution of a gene family in taxonomic group of sharks.
- Communicated findings to a wide range of academic audiences through participation on 5 international conferences.

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.
- Define organizational problems, and implemented plans to correct problems such as the creation of a stronger organigram, generation of the logistics supervisor position, and the determination of minimum productivity scale.
- Wrote and executed over US$36000 in research grants.

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**