Diego Salazar

April 22, 1987

Pharmacist MBiolSci

Colombian

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Education

- **Universidad de los Andes** — Bogotá, CO
  Ph.D. Engineering — *2017-Present*
  - Department of Industrial Engineering
  - Emphasis on statistical learning for observational clinical studies
  - Committee: Dr. Carlos Valencia and Dr. Ivan Díaz
- **Pontificia Universidad Javeriana** — Bogotá, CO
  Master in Biological Sciences — *2013-2014*
  - Department of Nutrition and Biochemistry
  - Emphasis on reconstruction, optimization and analysis of genome-scale models
  - Committee: Dr. Janneth Gonzalez, Dr. George Barreto and Dr. Javier Almeciga
- **Universidad Nacional de Colombia** — Bogotá, CO
  B.Sc. Pharmacy — *2005-2010*
  - Emphasis on clinical and industrial pharmacy
  - Advisor: Prof. Claudio Alegría

Industry Experience

- **Unidossis SAS - http://www.unidossis.com.co/** — Bogotá, CO
  Pharmacist — *2011-2012 and 2013-2015*
  - To generate production orders for preparation of parenteral nutrition, oncological mixtures and antibiotics. I automated this process using Excel and VBA.

Clinical Experience

- **Clinica Universitaria Colombia** — Bogotá, CO
  Pharmaceutical service team — *July 2012-January 2013*
  - To provide the unitary system doses of the clinic, in addition to the preparation of medical products of clinical trials.
- **Clinica Infantil Colsubsidio** — Bogotá, CO
  Pharmaceutical service team — *March 2016-January 2017*
  - To provide the unitary system doses for oncology patients. To detect events related to medications, as event adverse or drug-drug interactions.
  - To detect events related to medications, as event adverse or drug-drug interactions.

Educational Experience

- **Universidad de los Andes** Bogotá, CO
  Programs: Industrial Engineering *2019-2021*
  - Probability and statistics II: ANOVA - Linear and logistic regression
- **Universidad Santo Tomas** Bogotá, CO
  Programs: Environmental and Natural Resources Administration and husbandry *2005*
  - Blended learning modality professorship: Microbiology, biochemistry and biophysics

Research Experience

- **Weill Cornell University, advisor Dr. Ivan Diaz** New York, USA
  Short-term researcher in Department of Population Health Sciences *2022*
  - We applied a *Longitudinal Modified Treatment Policy* methodology to study causal effect of Intubation in Acute Kidney Inflammation in COVID patients.
  - We applied a *causal mediation with time-varying* methodology to study the direct effect of Circulating Tumor Cells measurement in Breast cancer patients outcome.
- **Universidad de los Andes, advisor Dr. Carlos Valencia** Bogotá, CO
  Researcher in Center for the Optimization and Applied Probability *2017-2018*
  - Wrote a code for stochastic frontier analysis in `R`
- **Pontificia Universidad Javeriana, advisor Dr. Carlos Alméciga** Bogotá, CO
  Researcher in Instituto de Errores Innatos del Metabolismo *2015-2017*
  - Used metabolic network of Glia to study Arylsulfatase A deficiency
  - Statistical analysis of results.
  - Created a **genome-scale metabolic model** of glia-neuron interaction
  - Used a metabolic network of Glia-Neuron interaction to study Arylsulfatase A deficiency
  - Statistical analysis of results.

Publications

1. Rodriguez AX, Salazar DA. Methodology for the prediction of fluid production in the waterflooding process based on multivariate long–short term memory neural networks. *Journal of Petroleum Science and Engineering. 2021.* **DOI: 10.1016/j.petrol.2021.109715**
2. Salazar DA, Rios J, Aceros S, Florez V, Valencia CF. Kernel Joint Non-negative Matrix Factorization for Genomic Data. *IEEE ACCESS. 2021.* **DOI: 10.1109/ACCESS.2021.3096801**
3. Salazar DA, Przulj N, Valencia CF. Multi-project and Multi-profile joint Non-negative Matrix Factorization for cancer omic datasets. *Bioinformatics. 2021.* **DOI: 10.1093/bioinformatics/btab579**
4. Echeverri OY, Salazar DA, Rodriguez A, Gonzalez J, Almeciga-Diaz CJ, Verano C, Barrera L. Use of a neuron-glia genome-scale metabolic reconstruction to model the metabolic consequences of the Arylsulphatase A deficiency through a systems biology approach. *Heliyon. 2021.* **DOI: 10.1016/j.heliyon.2021.e07671**

5. Martin CA, Salazar DA, Barreto GE, Gonzalez J. Genome-scale reconstruction of the human astrocyte metabolic network. *Frontiers in Aging Neuroscience. 2017.* **DOI: 10.3389/fnagi.2017.00023**

6. Echeverri OY, Salazar DA, Rodriguez-Lopez A, Gonzalez J, Almeciga-Diaz CJ, Barrera LA, *Understanding the Metabolic Consequences of Human Arylsulfatase A Deficiency through a Computational Systems Biology Study. Central Nervous System Agents in Medicinal Chemistry. 2016.* **DOI: 10.2174/1871524915666160510124150**.

7. Salazar DA, Rodríguez-López A, Herrero A, Barbosa H, Herrera J, Barreto GE, González J, Alméciga-Díaz CJ, *Systems biology study of mucopolysaccharidosis using a human metabolic reconstruction network. 2015.* **DOI:10.1016/j.ymgme.2015.08.001**

Presentations

- *Interconexion neuron-glia in the synthesis of neurotransmitters.*
  - Systems biology approach. 3er Congreso Colombiano de Biologia Computacional y Bioinformatica (CCBCOL3) – Bogotá, CO (September 2015)
- *Using a computational human metabolic reconstruction on the study of mucopolysaccharidosis.*
  - Lysosomal Disease Networks WORLD Symposium 2014 – San Francisco, CA (2014)
- *System biology approach to mucopolysaccharidosis using a computational human metabolic reconstruction.*
  - 13th International Symposium on Mucopolysaccharidosis and Related Diseases – Rio de Janeiro, BR (August 2014)
- *Acercamiento por biologia de sistemas para el estudio de la mucopolisacaridosis*
  - Primer Congreso Colombiano de Bioquímica y Biología Molecular – Bogotá, CO (June 2014)
- *Negative effects of the differentiation medium on the cellular difference during in vitro adipogenesis of 3T3-L1 cells.*
  - Simposio Internacional de Medicina Tropical y Enfermedades Infecciones – Barranquilla, CO (2010)

Key coursework

- *Data science for all DS4A / Colombia program 4.0*
  - Machine learning course - 2020
- *Centro Latinoamericano de Formación Interdisciplinaria - CELFI*
  - Regression techniques and multivariate analysis with R 2019
- *Coursera*
  - Epidemiology for Public Health, specialization (3 courses) 2020

  - Mathematics for Machine Learning, specialization (3 courses) 2018
  - Deep learning, specialization (5 courses) 2018
  - BlockChain, specialization (4 courses) 2018
- *Universidad nacional de Colombia, Bogota, CO*
  - Data sience for Bioinformatics 2017
  - Introduction course to data analysis using R and EXCEL 2016
  - Construction of biological networks based on genomic data 2015
- *International brain research organization - ibro*
  - Latin-american school on glial cells in the diseased brain 2015, Bogota, CO
  - 9th ibro world congress of neuroscience, 2015, Rio de Janeiro, BR

Awards, Grants & Honors

Scholarship for assistance, Latin/American school on glial cells in the diseased brain 2015
Travel Grant, IBRO International Travel Grants 2015
Scholarship and Travel Grant, Workshop Autophagy: Physiological and Pathological Roles . 2016
Scholarship COLCIENCIAS, PhD Engineering 2017
Scholarship for course, CELFI-DATOS 2019
Second Place in advance section in Hackathon Oil&Gas 2021

Skills

- **Numerical Analysis and Computer Science:** Statistical Learning, multi-omics integration, Machine Learning and Data Mining.
- **Development:** Python/R (preferred), MATLAB, VBA and EXCEL, Stata, Java.
- My professional experience allow me to work in different areas. Hence, I have a capacity for quick learning and teamwork.

Languages

- **Spanish:** Native.
- **English:** TOEFL IBT (2022) Score 83. R: 19, L: 23, S: 17, and W: 24.