# Bayesian causal data science

Nationality
Languages
Birthday
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Web
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Github

#### Landfried, Gustavo

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## Bayesian inference. Computer science. Social anthropology.

- Promoter of the Latin American Bayesian community (bayesdelsur.com.ar)
- Causal reasoning based on the strict application of probability
- Developer and maintainer of open software in Python, Julia and R
- Solid experience in machine learning software development
- Outstanding methodological background in social sciences
- Fluent teamwork within interdisciplinary groups
- Scientific reports accessible to diverse audiences

### Work experience

Bayesian causal data science — Laboratorios de Métodos Bayesianos Specification and evaluation of alternative causal models in finance, health, sports and forensics.
 Graduate teaching assistance in Computer Science — Buenos Aires University Teaching activities in various courses at the Computer Science degree. Master's thesis director in Computer Science and Seminar on Bayesian Inference.
 Doctoral Fellowship in Computer Science — Instituto de Ciencias de la Computación Artificial Intelligence Lab and High Performance Computing Lab. Bayesian analysis of learning in video game communities (defense 2023)
 Coordinator — National Audiovisual Audience Measurement System Coordinator of the areas of social sciences and computer technical support. Administration of the database and the automatic survey system.

2012 – 2013 | Social work – Ministerio de Desarrollo Social, Argentina

Impact evaluation of public policies and counseling for the "Argentina Trabaja" program.

2008 – 2016 | Data Scientist – Grupo Antropocaos

Formal methods in social sciences. Simulation and predictive models. Online bets.

**Association** | Co-founder – Bayes Plurinacional

Organizer of the Bayesian Plurinational Community (bayesdelsur.com.ar).

Software tools Python (PyMC3, Scipy, Sklearn, Pandas, Numpy, TensorFlow, Virtualenv, ...), Julia

(Turing, ...), R (Stan, ...), C# (Infer.NET), C++ (MPI), Haskell, Bash (screen, ssh, vi, rsync, awk ...), SQL, NoSQL, Git, Docker, Latex (Tikz), Html, ...

### **Education** Buenos Aires University

2016 – 2022 PhD in **Computer Science**. (Defense 2023)

Licentiate in Computer Science. (Suspended after promotion to PhD)

Licentiate (BSc + MSc) in **Anthropological Sciences**.

### **Teaching** Buenos Aires University

Bayesian Inference (with C#, Julia, Python and R). Faculty of Exact and Natural Sciences.

One-on-one mentoring. Director of master's thesis in the Department of Computer Science.

Algorithms and data structures I (with C++). Department of Computer Science.

Introduction to Computer Science (with Python). Department of Computer Science.

Computational Social Science (with R). Departments of Anthropology and Computer Science.

Functional programming (with Haskell). Department of Computer Science.

Artificial Societies and Ethnography (with Netlogo). Department of Anthropological Sciences.

### Scientific research

#### **Software**

2012 - 2015

2005 - 2009

2019 - 2019

2018 - 2019

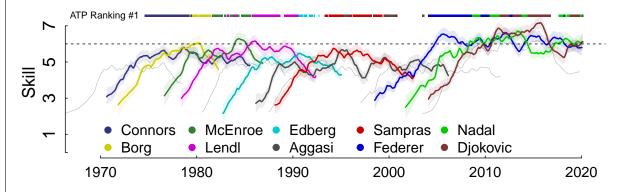
2018 - 2018

2016 - 2017

2010 - 2010

2020 *-* 2019 *-*

The state-of-the-art skill estimator: github.com/glandfried/TrueSkillThroughTime Developer. Efficiently inference through distributed message-passing algorithms and analytical approximation methods, even in causal networks with millions of nodes and irregular structures.



#### **Articles**

- o Landfried, G., Cairo G., Mocskos E. *Exploring the effect of network structure on individual learning:* a longitudinal study of an online Go game community. Preprint Github 2022. Download.
- o Landfried, G; Properties of the epistemic-evolutionary cost function. Lessons from the intelligence of life. Preprint Github 2023. Download
- o Landfried G., Mocskos E. *TrueSkill Through Time: reliable initial skill estimates and historical comparability in Julia, Python and R.* In press at Journal of Statistical Software. 2021. Download.
- o Landfried, G; Fernandez Slezak, D; Mocskos, E: Faithfulness-boost effect: Loyal teammate selection correlates with skill acquisition improvement in online games. PLoS one. 2019.

#### **Events**

2022. Día de la investigación en Ciencias de la Computación. Poster

2019. 3rd ESLR. Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany. Poster.

2018. Machine Learning Summer School, MLSS. Torcuato Di Tella University, Argentina. Poster.