

## Personal information

Name / Surname

Address

Telephone

Personal Email

Nationality

Date of birth

Web

**Landfried, Gustavo Andrés**

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Swiss - Argentine

October, 1985

<https://glandfried.github.io/>



**Bayesian Inference Engineer**

## General description

**Social anthropologist with a PhD in computer science**, I am a **Bayesian Inference Engineer** using machine learning and causal reasoning to evaluate risks and opportunities.

In contrast to ad-hoc solutions, the strict application of probability theory (Bayesian approach) guarantees inter-subjective agreements in contexts of uncertainty, the foundation of empirical truths. In addition, it allows to focus attention on the real problem since the specification of causal models is done using intuitive graphical methods that are accessible to everyone. Although it is known to be the correct logic for the empirical sciences, its adoption was historically limited due to its high computational cost. Instead of selecting a single hypothesis, the Bayesian approach evaluates each and every hypotheses according to the empirical and formal evidence (data and causal models). In recent decades, however, these costs have been largely overcome thanks to the development of efficient approximation methods and message-passing algorithms between model variables. It is the correct use of these tools that always guarantees risk reduction and optimal decision making. The state-of-the-art skill estimator for the video game industry, which I have published in Python, Julia and R, is just one example.

## Work experience

2022 / 08 – In progress

*Co-founder* – Pacha Suyus

The company implements end-to-end actuarial (or betting) solutions, from the creation and maintenance of streaming databases to the correct evaluation of alternative causal models using efficient inference methods, thus ensuring risk reduction and optimal decision making in contexts of uncertainty.

2016 / 02 – In progress

*Graduate teaching assistance in Computer Science* – Facultad de Ciencias Exactas y Naturales - UBA

Current positions: Master's thesis director in Computer Science and Seminar on Bayesian Inference. (See reverse side).

Tools: Data structures. C++. Algorithms. Python. Functional programming. Haskell. Software specification.

2016 / 06 – 2022 / 06

*Doctoral Fellowship in Computer Science* – Instituto de Ciencias de la Computación CONICET  
*Artificial Intelligence Lab. High Performance Computing Lab.*

Release of the first open version of the state-of-the-art skill estimator, TrueSkill Through Time (TTT), creating the first packages available so far in Julia, Python and R. Unlike the models commonly used in the video game industry and academia, TTT propagates historical information throughout the entire causal network, providing estimates with low uncertainty at any given time, enabling reliable initial skill estimates, and ensuring historical comparability. Analytical approximation methods and message-passing algorithms allow inference to be solved efficiently using any low-end computer, even in causal networks with millions of nodes and irregular structures.

2015 / 07 – 2016 / 03

*Coordinator of the areas of Public Opinion and Informatics* – UNSAM-PASCAL

Within the PASCAL Programme, the body of the National Audiovisual Audience Measurement System responsible for the Buenos Aires Metropolitan Area, I was in charge of the administration of the database and the automatic survey system, coordinating the tasks of the Public Opinion and Informatics staff (social scientists and computer technicians). Tools: Database administrator. SQL. Measurement of social media. Survey design. Data analysis. R.

2014 / 01 – 2015 / 06

*Data Engineer* – High Performance Computer Lab. UBA.

Distributed computing. Parallel Programming. MPI. Shell script. Distributed Database.

2012 / 08 – 2013 / 05

*Public policy evaluation* – Ministerio de Desarrollo Social, Argentina

Ethnography. Social work. Impact evaluation. Community policies.

2008 / 08 – 2016 / 06

*Data Scientist* – Freelance at Grupo Antropocaos

Predictive models. Online betting. Optimal decision making. Database creation. Web scraper.

## Software

Article

## The state-of-the-art skill model.

Landfried G., Mocskos E. *TrueSkill Through Time: reliable initial skill estimates and historical comparability in Julia, Python and R*. In review at Journal of Statistical Software. Github 2021. [Download](#)

Code

[github.com/glandfried/TrueSkillThroughTime](https://github.com/glandfried/TrueSkillThroughTime) (Julia, Python and R)

## Education

2016 / 06 – 2022 / 06

PhD in **Computer Science**, Buenos Aires University

2012 / 08 – 2015 / 12

Licentiate in Computer Science, Buenos Aires University (Suspended after promotion to PhD)

2005 / 03 – 2009 / 12

Licentiate (BSc + MSc) in **Anthropological Sciences**, Buenos Aires University.

## Teaching

2020 / 02 – In progress

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

2019 / 08 – In progress

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

2019 / 02 – 2019 / 08

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

2018 / 08 – 2019 / 08

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

2018 / 08 – 2018 / 12

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

2016 / 02 – 2017 / 08

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

2010 / 02 – 2010 / 07

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

## Scientific events

→ [Poster](#)

Computer Science Research Day. Université de Buenos Aires, Argentine. 2022

[Poster](#)

3rd [ESLR](#). Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany. 2019

[Poster](#)

Machine Learning Summer School, [MLSS](#). Torcuato Di Tella University, Argentina. 2018

## Languages

Spanish	French	English
Native	C1	B2