

AMAURY GOUVERNEUR

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PROFILE

PhD and RL researcher, with a strong background in probability, information theory, and mathematics. My research focuses on decision problems under uncertainty and establishing performance guarantees for learning algorithms, studying how efficiently agents acquire and exploit information in bandits and RL settings. My work combines theoretical analysis with empirical experimentation. Published and presented work at top-tier machine learning journals and venues (ICML, ISIT, NeurIPS, TMLR).

RESEARCH EXPERTISE

Reinforcement learning; sequential decision-making under uncertainty; Thompson Sampling; multi-armed and contextual bandits; actor-critic methods; information theory; regret analysis; statistical learning.

EDUCATION

Ph.D. in Machine Learning

GPA: 4.0/4.0

KTH ROYAL INSTITUTE OF TECHNOLOGY, Stockholm, Sweden

Aug 2020 – Dec 2025

Information Science and Engineering (ISE), Electrical Engineering Department

- Thesis title: An Information-Theoretic Approach to Bandits and Reinforcement Learning
- Advisors: Mikael Skoglund & Tobias Oechtering
- Committee: Gergely Neu, Alexandre Proutière, Thomas Schön, Emilie Kaufmann

Visiting Student Researcher

STANFORD UNIVERSITY, Stanford, CA

Jan 2024 – Apr 2024

Information Systems Laboratory (ISL), Electrical Engineering Department

Research visit with Prof. Benjamin Van Roy

M.Sc. in Applied and Computational Mathematics

GPA: 4.9/5.0

KTH ROYAL INSTITUTE OF TECHNOLOGY, Stockholm, Sweden

Sep 2018 – Jun 2020

Minor: Computational Mathematics

M.Sc. in Mathematical Engineering

Summa cum laude: 17.38/20

ÉCOLE POLYTECHNIQUE DE LOUVAIN, Louvain, Belgium

Sep 2015 – Jun 2020

Minor: Mathematics of Data Science and Machine Learning

B.Sc. in Electrical and Mathematical Engineering

WORK EXPERIENCE

KTH Royal Institute of Technology

Stockholm, Sweden

Researcher

Feb 2026 – Present

- Completing final research outputs on generalized linear bandits with frequentist guarantees.
- Developing epistemic actor-critic methods with information-directed objectives.
- Preparing publications and reproducible implementations from doctoral research.

Lynx Asset Management

Stockholm, Sweden

Quantitative Research Intern

March – Jun 2025

- Developed reinforcement-learning methods for trade execution using high-frequency LOB data.
- Implemented actor-critic RL model for order placement (price, volume, cancellation).
- Built simulation and evaluation models to assess execution cost and risk across market conditions.

aSmartWorld

Genval, Belgium

Founding Engineer & Technical Lead

2019 – 2021

- Designed technical architecture; developed iOS app for hardware testing and device collection.
- Contributed to fundraising €400k in seed funding; hired and led engineering hires.

Deloitte UK

London, UK

Strategy & Operations Intern

Summer 2017

- Quantitative industry and strategy analysis within the Strategy & Operations practice.

SELECTED PUBLICATIONS ([GOOGLE SCHOLAR](#))

- **An Information-Theoretic Analysis of TS for Logistic Bandit Problems** *TMLR 2026*
Resolves a conjecture on logistic bandits by removing exponential dependence on logistic slope.
- **Refined PAC-Bayes Bounds for Offline Bandits** *ISIT 2025*
Derives state-of-the-art PAC-Bayes bounds for offline bandits via new optimization technique.
- **Chained IT bounds and Tight Regret Rate for Linear Bandit Problems** *ICML 2024 - FoRLaC*
Achieves optimal regret rate for linear bandits using a chaining-based analysis.
- **TS Regret Bounds for Contextual Bandits with sub-Gaussian rewards** *ISIT 2023*
Extends the Russo-Van Roy information-theoretic analysis to contextual bandit problems.

SELECTED PROJECT

- **CHES-GPT**: Fine-tuned and post-trained a large language model to play chess as supervisor of bachelor student thesis projects; demo available at amaurygouverneur.github.io/chess-gpt/.
- **TUMOR TRACKING**: Proposed an approximate optimization framework for selecting measurement times in particle-filter-based tumor tracking with limited sensing budgets.

TEACHING EXPERIENCE

- **Pattern Recognition and Machine Learning** *KTH*
Master's course on Bayesian pattern recognition, HMMs, EM, and variational Bayes *2020 – 2024*
- **Deep Neural Networks and Generative Models** *KTH*
Industry course on modern deep learning, CNNs, generative models, and transfer learning *2022*
- **Machine Learning and Data Science** *KTH*
Master's course covering Bayesian graphical models, VI, sparse learning, and deep neural networks *2024*

PROGRAMMING SKILLS

LANGUAGES: Python, C++, SQL, MATLAB

LIBRARIES: PyTorch, JAX, NumPy, Pandas, SciPy, scikit-learn, TensorFlow

TOOLS & ENVIRONMENT: Linux, Bash, Git, Docker

SERVICE

- Reviewer for ICML, ICLR ISIT, and ICASSP
- Research coordination within WASP national research programs for RL and Foundations of AI

LANGUAGES

French (native speaker), English (fluent), Swedish (fluent), German (C1)

OTHER

Competitive running, math Olympiads, gravel biking, specialty coffee enthusiast