

Pierre-Antoine Bannier

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Experience

- 2022–Now **Research scientist, Owkin**
Medical imaging team
- 2021 **Research scientist, Inria Paris-Saclay**
- Subject: Bi-level optimization for sparse neuroimaging models
 - Supervisors: [A. Gramfort](#) and [J. Salmon](#)
 - Team: Parietal

Education

- 2020–2022 **MSc in Data Science, Ecole Polytechnique**
- GPA: 3.96/4
 - Supervisor: [M. Massias](#)
 - Thesis: Non-smooth convex and non-convex optimization
- 2017–2020 **MiM, Grande Ecole Program, HEC Paris**

Publications

- 2023 Deep learning model for identification and characterization of HER2-low tumors
Nature Modern Pathology
P.-A. Bannier, L. Herpin, R. Dubois, L. Van Praet, C. Maussion, E. Amonoo, A. Mera, J. Timbres, C. Gillett, E. Sawyer, P. Gazinska, P. Ziolkowski, R. Salgado, S. Irshad.
Under review
- 2023 AI-based identification of FGFR3 mutation status from routine histology slides of muscle-invasive bladder cancer
Journal of Clinical Oncology (JCO)
C. Saillard, **P.-A. Bannier**
[Abstract](#)
- 2022 Beyond L1: Faster and better sparse models with skglm
Neural Information Processing Systems (NeurIPS)
Q. Bertrand, Q. Klopfenstein, **P.-A. Bannier**, G. Gidel, M. Massias
[arXiv](#)
- 2022 Benchopt: Reproducible, efficient, and collaborative optimization benchmarks
Neural Information Processing Systems (NeurIPS)
T. Moreau, M. Massias, A. Gramfort, P. Ablin, **P.-A. Bannier**, B. Charlier, M. Dagr  ou, T. Dupre la Tour, G. Durif, C. F Dantas, Q. Klopfenstein, J. Larsson, E. Lai, T. Lefort, B. Mal  zieux, B. Moufad, B. T Nguyen, A. Rakotomamonjy, Z. Ramzi, J. Salmon, S. Vaite  r
[arXiv](#)
- 2021 Electromagnetic neural source imaging under sparsity constraints with SURE-based hyperparameter tuning
Medical imaging meets NeurIPS 2021
P.-A. Bannier, Q. Bertrand, J. Salmon, A. Gramfort
[arXiv](#)

Talks

- 2023 San Antonio Breast Cancer Symposium, Artificial intelligence session (**Poster presentation**)
Deep learning model for automated quantification of HER2 expression in invasive breast cancers from immunohistochemical whole slide images

- 2022 NeurIPS 2022 in Paris
Beyond L1: Faster and Better Sparse models with skglm
- 2022 Université Paris-Saclay, Journée Des Sciences Etudiants 2022
skglm: a faster solver for high-dimensional convex and non-convex problems

Awards

- 2020 **Kaggle**
- 44th place (top 2%) on the Tweet Sentiment Extraction competition (Silver medal)
 - 75th place (top 5%) on the Jigsaw Multilingual Toxic Comment Classification competition (Silver medal)
 - 161th place (top 5%) on the SIIM-ISIC Melanoma Classification competition (Silver medal)
 - 123rd place (top 0.1%) as a top notebook contributor (Notebooks master)

Reviewing

Journals Computo

Conferences NeurIPS 2023, ICLR 2024

Main open-source contributions

- 2023 **bark.cpp**, 270 stars
Creator
Fast memory-efficient implementation of [SunoAI's Bark](#) text-to-speech model in C++ for inference on the edge
[GitHub](#)
- 2022 **skglm**, 100 stars
Co-creator and core contributor
Fast optimizer for high-dimensional convex and non-convex non-smooth optimization problem (merged in scikit-learn-contrib)
[GitHub](#)
- 2023 **ggml**, 7.6k stars
Core contributor
Efficient tensor calculus for machine learning in C
[GitHub](#)

Skills

Proficient Python, C, C++, SciPy stack, PyTorch, Bash, Git

Experience Rust, Typescript, NodeJS, React, PostgreSQL, MongoDB, Docker

Languages

French Native

English Fluent

Spanish C2