

Alexandre CHAUSSARD

Education

- 2023–present : **PhD candidate, Statistical learning**, Sorbonne Université, Paris, France.
Structured Latent Generative Models and Variational Inference for Microbiome Analysis, supervised by Sylvain Le Corff (Professor, Sorbonne Université), Harry Sokol (PU-PH, AP-HP) & Anna Bonnet (Associate Professor, Sorbonne Université). Funded by ISCD.
- 2022–2023 : **Master of Science in Data Science**, Institut Polytechnique de Paris, Palaiseau, France.
- 2020–2023 : **Engineering Degree in Computer Science**, Télécom SudParis, Évry, France.
- 2018–2020 : **CPGE**, Champollion, Grenoble, France.
Two-years bachelor equivalent program in mathematics, physics, and chemistry to prepare entry exams to French engineering schools.

Vocational Experience

- 2023 : **Master thesis**, LPSM, Paris, France.
Topic: tree-based models for taxa-abundance data and clinical applications to inflammatory bowel diseases. Supervised by Sylvain Le Corff, Harry Sokol & Anna Bonnet.
- 2022 : **Undergraduate researcher**, AiBetic, Stockholm, Sweden.
Topic: Diabetes analysis and blood sugar forecasting, patterns extraction through matrix profiles. Supervised by John Lamb (PhD).
- 2022 : **Undergraduate researcher**, GEPROMED, Évry, France.
Topic: Developing a training tool for vascular surgeons, reducing costs and documenting good practices. Supervised by Emmanuel Monfrini (Professor, Télécom SudParis), Nabil Chakfé (MD. PhD, Hôpitaux de Strasbourg).
- 2021 : **Undergraduate engineer**, Kuantom, Paris, France.
Topic: statistical analysis to detect pressure anomalies in liquid containers, Android application development.

Skills

- Languages French (fluent), English (fluent, TOEIC: 910 – C1)
- Programming Python (PyTorch), Java
- Languages

Publications

Journal Articles

- 2026 Léonard Dubois, Alexandre Chaussard, Philippe Seksik, Stéphane Nancey, Maria Nachury, Xavier Treton, Anthony Buisson, Franck Carbonnel, Mathurin Fumery, Laurent Peyrin-Biroulet, et al. Uncovering the dynamics of mucosa-associated microbiota in post-operative recurrence of Crohn's disease. *Gastroenterology*. Elsevier, 2026.
- 2025 Alexandre Chaussard, Anna Bonnet, Sylvain Le Corff, and Harry Sokol. TaxaPLN: a taxonomy-aware augmentation strategy for microbiome-trait classification including metadata. *BMC bioinformatics*. Springer, 2025.
- 2025 Alexandre Chaussard, Anna Bonnet, Elisabeth Gassiat, and Sylvain Le Corff. Tree-based variational inference for Poisson log-normal models. *Statistics and Computing*, volume 35, page 135. Springer, 2025.

Preprints

- 2026 Alexandre Chaussard, Anna Bonnet, and Sylvain Le Corff. Independent Component Discovery in Temporal Count Data. *arXiv preprint arXiv:2601.21696*, 2026.

Teaching activity

Teaching assistant

- 2023–2026 : **UL1INMA1 - Sciences des Données, Licence 1**, Sorbonne Université, Tutorial and practicals (64h/year).
Topic: data science basics with linear regression, gradient-based optimization, statistics, unsupervised clustering. Course heads: Stéphane Robin, Jean-Noël Vittaut.
- 2023–2025 : **4MA074 - Probabilités numériques et statistiques computationnelles, Master 1**, Sorbonne Université, Tutorial and practicals (24h/year).
Topic: Monte Carlo sampling methods, control variates, sequential Monte Carlo, variational inference. Course heads: Vincent Lemaire, Sylvain Le Corff.
- 2026 : **UM4MA379 - Statistique computationnelle et machine learning, Master 1**, Sorbonne Université, Practicals (24h/year).
Topic: Sequential Monte Carlo, Expectation-Maximization, variational inference and variational auto-encoders. Course heads: Arnaud Guyader, Maxime Sangnier, Sylvain Le Corff.

Supervision

- 2026–present **Co-supervision of the master thesis of Paul Poupeau, Polytech Sorbonne.**
Supervised with Sylvain Le Corff, Anna Bonnet, Elsa Rousseau & Frédéric Calon.
Topic: Preclinical diagnosis of Alzheimer's disease using microbiome data.

Scientific activity

- 2024–present **Peer-review activity.**
Transactions on Machine Learning Research, NeurIPS, ICML

Communications

International conferences and workshops

- Aug 2025 : **IA & Alimentation, Sorbonne Center for Artificial Intelligence**, Oral.
30 minutes talk on Poisson log-normal models for microbiome analysis and disease prognosis.
- Dec 2024 : **GT LEGO 2024 Machine Learning for genomics, Sorbonne Université**, Oral.
15 minutes talk on "TaxaPLN: a taxonomy-aware augmentation strategy for microbiome-trait classification including metadata".
- Feb 2024 : **Statistical Methods for Post Genomic Data, ENS Paris**, Oral.
15 minutes talk on "Tree-based variational inference for Poisson log-normal models".
- Nov 2023 : **AI and nutrition health, Sorbonne Center for Artificial Intelligence**, Workshop.
Practical sessions on microbial applications.

Seminars

- Jan 2026 : **Seminar at MIA Paris-Saclay, Palaiseau.**
45 minutes talk on "Independent components discovery in longitudinal microbiome data".
- Dec 2025 : **Mathematical Foundations of AI, Sorbonne Center for Artificial Intelligence**, Oral.
15 minutes talk on identifiability in Poisson log-normal models and its practical implications.
- Jul 2025 : **56th Journée de statistique de la SFdS, Marseille.**
15 minutes talk on "TaxaPLN: a taxonomy-aware augmentation strategy for microbiome-trait classification including metadata".

Mar 2025 : **Seminar at Mines Paris PSL, Fontainebleau.**

1h talk on "TaxaPLN: a taxonomy-aware augmentation strategy for microbiome-trait classification including metadata".

Jul 2024 : **55th Journée de statistique de la SFdS, Bordeaux.**

15 minutes talk on "Tree-based variational inference for Poisson log-normal models".

Personal activities

2021–present **Digital art designer, Auto-entrepreneur.**

Designing 3D models, animations and sprays for video games and YouTube content.

Java plug-in developments for multiplayer server add-ons. Art team management and marketing.