Jannis Chemseddine

Mathematics PhD Student, TU Berlin, Germany
chemseddine@math.tu-berlin.de GitHub: JChemseddine

EDUCATION

PhD in Mathematics, TU Berlin October 2024 —
Research Interests: Generative modelling, Bayesian inverse problems, sampling, optimal transport, gradient flows.
Supervisor: Prof. Dr. Gabriele Steidl

M.Sc. in Mathematics, TU Berlin March 2023 — September 2024
Thesis Title: Conditional Wasserstein Distances with Applications in Bayesian OT Flow Matching (1.0) Grade 1.2

B.Sc. in Mathematics, TU Berlin March 2020 — March 2024
Thesis Title: Neural Flows of Maximum Mean Discrepancies with Riesz Kernels for Posterior Sampling in Inverse Problems (1.0) Grade 1.3

Abitur, Schiller Gymnasium, Berlin, Germany 2012 — July 2017
Attended a bilingual (english, german) program. Grade: 1.5

EXPERIENCE

Student Researcher Berlin, Germany
TU Berlin April 2023 — September 2024
Working in the applied mathematics group of Professor Steidl.

- Worked on neural gradient flows of maximum mean discrepancies, developed theoretical results that ended up in two publications.
- Research on optimal transport based distances for applications in conditional generative modelling in a Bayesian setting.

Tutor Berlin, Germany
TU Berlin March 2022 — April 2023

- Tutor for the courses Linear Algebra 1 and Numerical Analysis.

Working Student Berlin, Germany
IBB Ventures August 2019 — February 2022

- Worked alongside technology investment team on content creation and investment research.

PUBLICATIONS and PREPRINTS

- Chemseddine, J., Kornhardt, G., Duong, R., Steidl, G. (2025). Adapting Noise to Data: Generative Flows from 1D Processes.
  Preprint
- Duong, R., Chemseddine, J., Friz, PK., Steidl, G. (2025). Telegrapher's Generative Model via Kac Flows.
  Preprint
- Jahn, T., Chemseddine, J., Hagemann, P., Wald, C., Steidl, G. (2025). Trajectory Generator Matching for Time Series.
  Preprint
- Chemseddine, J., Wald, C., Duong, R., Steidl, G. (2024). Neural Sampling from Boltzmann Densities: Fisher-Rao Curves in the Wasserstein Geometry.
  International Conference on Learning Representations 2025
- Chemseddine, J., Hagemann, P., Steidl, G., Wald, C. (2024). Conditional Wasserstein Distances with Applications in Bayesian OT Flow Matching.
  Journal of Machine Learning Research 26
- Hagemann, P., Hertrich, J., Altekrüger, F., Beinert, R., Chemseddine, J., Steidl, G. (2023). Posterior Sampling Based on Gradient Flows of the MMD with Negative Distance Kernel.
  International Conference on Learning Representations 2024

LANGUAGES

- **German:** Native speaker.
- **English:** Very good.
- **French:** Basic.

AWARDS

- **BMG Bachelor Prize:** Award for outstanding Bachelor thesis, awarded by the Berlin Mathematical Society.

TEACHING

- **CWI Autumn School 2025** Gave the practical sessions at the Autumn School. Focused on teaching the students background to flow matching, Optimal Transport. Particular focus on using Optimal Transport to improve flow matching also in the conditional setting. Corresponding notebooks are available on my GitHub.