Jörg Ebner

Machine Learning Engineer | Data Scientist | PhD Candidate

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PROFILE

PhD candidate in Neuro-Information Systems with 5+ years of experience in machine learning, reinforcement learning, NLP, optimization, and data science. I build research-driven systems end to end, from experiment design and data collection to model development, evaluation, and deployment. Open to industry roles from 01/2027.

EXPERIENCE

Lecturer – Economics & Microeconomics 04/2025 – Present
Business Administration (Industrial Management), DHBW Lörrach
- Introduction to Economics and Microeconomics; Advanced Microeconomics

Research Assistant & PhD Candidate 08/2022 – 12/2026
Chair of Information Systems Research, University of Freiburg
- NeuroIS research on deepfakes, AI tone, and online reviews, using eye tracking, EEG, and ECG
- Built a generative-AI deepfake pipeline and web interfaces for lab studies
- Teaching: Optimization & Simulation; IT support and webmaster for the institute

Student Research Assistant 12/2019 – 07/2022
Chair of Information Systems Research, University of Freiburg
- Research support with Python, teaching support (Optimization & Simulation), webmaster

Student Research Assistant 03/2019 – 03/2021
Chair of Statistics & Econometrics, University of Freiburg
- Lecture slides and exams in LaTeX, exam grading, organization of lectures and tutorials, chair website

Teaching Assistant 10/2017 – 03/2021
Statistics & Econometrics; Information Systems Research, Univ. of Freiburg
- Tutorials in statistics, hypothesis tests, and regression; teaching R, SQL, and the simplex method

EDUCATION

M.Sc. Economics (Grade: 1.2) 10/2019 – 05/2022
University of Freiburg – Business Analytics & Empirical Economics
- Thesis (1.0): *Reinforcement Learning for Combinatorial Optimization*

B.Sc. Economics (Grade: 1.4) 10/2016 – 09/2019
University of Freiburg
- Thesis (1.0): *Machine Learning in Real Estate*

LANGUAGES

German native (C2) **English** professional (C1) **Spanish** basic

INTERESTS

Swimming/DLRG Powerlifting Alpine Hiking Strategy games

TECHNICAL SKILLS

Programming
Python (5+ yrs), R (3+ yrs), SQL, LaTeX, JavaScript, HTML/CSS

Machine Learning & AI
Deep Learning, Reinforcement Learning, NLP, GenAI / LLMs, Time Series, Optimization

Frameworks & Libraries
PyTorch, TensorFlow/Keras, scikit-learn, XGBoost, Pandas, Gymnasium, Stable Baselines3, OpenAI API, OSMnx, NetworkX, Flask, oTree

SELECTED PROJECTS

AI tone in itinerary planning
Built an AI travel planning platform and ran a lab experiment (87 participants) on how the tone of an AI assistant changes user behavior.

myaitinerary.com
Full-stack AI travel planner built and deployed independently: Google Maps, LLM-assisted itinerary editing (OpenAI API).

How people process deepfakes
Generative-AI deepfake pipeline and lab experiment (120 participants) combining eye tracking, ECG, and behavioral data.

TSP with reinforcement learning
PPO agent plus simulated annealing and 3-Opt; routes up to about 25% shorter than a greedy baseline.

Flip7: a playable PPO agent
Custom RL environment, PPO agent trained against a dynamic-programming opponent, and a web app to play against it.

Rent prediction from apartment photos
Scraped 6,631 Berlin listings; two-branch CNN predicts rent per m² from kitchen and bathroom photos.

PUBLICATIONS

Persuasive or Neutral? A Field Experiment on Generative AI in Online Travel Planning
Jirpongopas, L., Lutz, B., **Ebner, J.**, Vahidov, R., Neumann, D. (2025). arXiv:2509.14259.

Deep Fakes and Political Attitudes: An Analysis of Confirmation Bias and Cognitive Dissonance Using Neurophysiological Measurements
Ebner, J., Lutz, B., Neumann, D. (2025). NeuroIS Retreat 2024, Vienna. LNISO vol. 66, pp. 299–311, Springer. DOI.