Martin Stoffel

mstoffel@posteo.de

AI engineer-researcher working in-between tech, bio, and society. Open-source software with 2,000+ citations; 24 publications (incl. Nature Communications, PNAS) with code pipelines; 8 yrs leading research & data-science teams.

LINKS

GitHub
Google Scholar
LinkedIn

SOFTWARE

Developed five open-source libraries with 150k+ downloads; 2,000+ citations:

- AutoEmulate – physics ML
- rptR & partR2 – stats
- inbreedR & GCalignR – bio

SKILLS

- **Languages:** Python, R, Bash
- **ML:** PyTorch, scikit-learn, Bayesian modelling
- **DevOps:** Git, Docker, AWS, Azure, CI/CD, HPC
- **Other:** Bioinformatics, Visualisation, AI agents

STUDIES

MSc From Neural Mechanisms to Evolution; BSc Psychology

GRANTS

- Open Philanthropy - $40k Career Development Grant (AI safety / biosecurity)
- PIBBSS AI Alignment Fellowship - $10k
- German Research Foundation Fellowship - €69k (Evolutionary Genomics)
- LJMU PhD Scholarship - €60k (Molecular Ecology)

EXPERIENCE

INDEPENDENT RESEARCHER / AI ENGINEER

Since Mar 2025

- Researching technical biosecurity solutions and safety of biological foundation models.
- Building AI agents (AWS/SQL/Python/FastAPI + Claude) for a German SME.

RESEARCH DATA SCIENTIST / SOFTWARE ENGINEER

Jan 2023 - Feb 2025 | The Alan Turing Institute, Research Engineering Group

- Created AutoEmulate , a machine learning pipeline to emulate physics simulations and cut runtime and compute by orders of magnitude; grew team 1→10 in a year; mentored PhD students; presented at AI UK; selected as part of Turing's 2025 strategic roadmap.
- Other projects: built DL models to detect artisanal rare-earth mines in Myanmar for Global Witness; co-created a citizen science platform ; and worked on a digital twin for an underground farm.

FELLOW | AI ALIGNMENT

June - September 2022 | Principles of Intelligent Behaviour in Biological and Social Systems fellowship

Explored AI alignment and parallels to cultural & biological evolution.

CONSULTANT | DATA SCIENCE

Jun – Oct 2021 • PlusVital & University College Dublin

Delivered in under 5 months a genome-wide study of 6,000+ Thoroughbred horses; evidence for industry-wide inbreeding harms in health/performance and pinpointing genetic loci using a novel method — work published in Proceedings of the Royal Society and now protected by patent .

RESEARCH FELLOW | EVOLUTIONARY GENOMICS

Apr 2019 - January 2023 | University of Edinburgh

Led research projects in Genomics, Ecology and Evolution; produced six peer-reviewed papers (incl. Nature Communications and PNAS with >250 citations), and released open-source code pipelines on GitHub .

PHD | MOLECULAR ECOLOGY (SUMMA CUM LAUDE)

Jan 2015 - Dec 2018 | Bielefeld University & Liverpool John Moores University

Joint PhD in high-throughput genomics, biostatistics and software engineering; published eight papers (> 2,500 citations); led a 10-country collaboration to study overhunting in global pinniped populations and built three open-source software packages; won the University's **best thesis award** in Biology.

SELECTED PUBLICATIONS

24 papers incl. PNAS, Nature Communications, Nature Ecology & Evolution; 12 as lead-author, >3,000 citation. Full list → Google Scholar

Stoffel , Li, et al. 'AutoEmulate: A Python package for semi-automated emulation', Journal of Open Source Software

Stoffel , Johnston, et al. 'Genetic architecture and lifetime dynamics of inbreeding depression in a wild mammal.' Nature Communications

Stoffel , Nakagawa, et al. 'rptR: Repeatability estimation and variance decomposition by generalized linear mixed-effects models.' Methods in Ecology and Evolution .