

MARCEL SKUMANTZ

> 21.11.2001

Bioinformatician | Software Engineer

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ABOUT ME

I am a bioinformatics student and software engineer interested in computational biology, machine learning, and scientific software. My experience includes developing research platforms, data-analysis tools, web applications, and machine-learning workflows. I enjoy working at the intersection of biology and software engineering, whether that involves improving an existing system, exploring a new technical idea, or collaborating on a research project.

EXPERIENCE

2/2026 — 7/2026 internship	Data Scientist / Bioinformatician <i>Bioinnovation Scholar – Program by the Innovation Centre Denmark in Silicon Valley; research at the intersection of AI, molecular simulation, and computational biology</i> GROMACS / Python / ML	Swaza, Mountain View
2/2025 — 7/2025 internship	Software Engineer / Bioinformatician <i>Refactoring of ProteusAI¹; transitioning to a modular, scalable, and distributed architecture featuring REST API-based asynchronous job scheduling, robust data management and UI/UX improvements</i> React / Flask / Redis / Celery / SQLAlchemy / PyTorch	DTU Biosustain, Lyngby
10/2024 — 2/2025 part time	Student Tutor <i>Software engineering using classical languages</i> C++	University of Applied Sciences Upper Austria
4/2024 — 12/2024 part time	Bioinformatician <i>Development of data analysis tool for circulating tumor cells (CTC) study</i> Python / C# / MSSQL	Ordensklinikum Linz GmbH, Elisabethinen, Linz
7/2022 — 3/2024 internship & part-time	Web developer <i>Front-end development, focus on user centric services</i> React / Redux	BOC Information Technologies Consulting, Vienna
7/2022 — 3/2024 part-time	IT-engineer <i>Full stack web development, windows server/domain administration, 3D-modeling, electronics</i> Vue.js / express / MariaDB	H.B. Medienvertrieb GmbH, Vienna

EDUCATION

Expected 2027	Master of Science <i>Bioinformatics in Life Sciences</i>	Technical University of Denmark
2022 — 2025	Bachelor of Science <i>Bioinformatics with a focus on software engineering</i>	University of Applied Sciences Upper Austria
2016 — 2021	Biomedicine and Health Technology <i>Focus on medical informatics, university entrance qualification, higher vocational college. Graduated: Matura</i>	HTL Spengergasse, Vienna
2013 — 2015	Robotics course MINT <i>Talent development course of the state of Lower Austria, introduction to computer science, object-oriented programming and robotics</i>	Provincial Academy of Lower Austria

ACADEMIC WORK

Mycol – a lightweight application for creating, curating, and analysing annotated microscopy image datasets with ML-assisted cell image analysis.
Gene Expression Profile Prediction using Explainable AI and Graph Neural Networks – utilizing graph neural networks and landmark genes from the LINCS program to enhance the prediction and explainability of gene expression profiles.
GXPvis – an auxiliary interactive 3D visualization tool for exploring gene networks, developed with React and Three.js.
gxpvis.skumantz.dev

OTHER

Bio x AI Hackathon (YC, 2026) – 2nd Place + People's Choice Award for *Sentinel*, an AI system that analyzes uncharacterized T-cell receptors, builds an agentic knowledge base of predicted antigen recognition, and generates experiment-ready validation designs.
Total Agent Recall Hackathon (2026) – 1st place and NVIDIA GPU Track winner for *Cascade*, an AI Agent system that helps you understand and research gene interaction networks, together with live hypothesis visualization and reasoning.
Cursor Copenhagen x DTU Skylab x Amass (2026) – 1st place for *Off-Target Agent*, an AI drug-target liability profiler that ranks off-tissue contexts for investigation.

LANGUAGES

German - native
English - proficient C1
Spanish - rudimentary A1

PERSONAL PROJECTS

Stash, a decentralized, end-to-end encrypted sync protocol for notes, links, and small files across personal devices.
Sy, a privacy focused habit tracker.
Jukebox, a service to crowd source DJing at a party. Users can request and vote on songs.
Somnun, a sleeping mask that uses live EOG data to track and predict your sleeping cycle.

¹<https://doi.org/10.1101/2024.10.01.616114>