Niko Sonnenschein, PhD

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Objective

Experienced technologist with a proven track record in leading tech-driven product development and cross-functional teams, seeking a growth opportunity in a tech-oriented Life Sciences company.

Professional Experience

March 2024 – Present
Principal Product Manager, *Ginkgo Bioworks*, USA, remote
- Continue product development of the biological assets search and design areas (see below).
- Developed comprehensive product vision, strategy, and roadmap documents, frequently used by product leadership as exemplary guides to the rest of the organization.

August 2022 – February 2024
Senior Product Manager 3, *Ginkgo Bioworks*, USA, remote
- Led product in two mission-critical areas: (1) DNA, RNA, and cell design & ordering, with over 1 billion base pairs of synthetic DNA ordered in the last 4 years; and (2) biological asset reuse through advanced biological search capabilities and Generative AI, unlocking previously untapped business knowledge for business development and R&D.

November 2019 – July 2022
Associate Professor, *Department of Biotechnology and Biomedicine, Technical University of Denmark*, Denmark
- Led the Computer Aided Biotechnology Group focusing on the integration of advanced computational biology tools and laboratory automation into biotech R&D.
- Developed new methodologies for ML-based experimental design, execution, and data analysis, enhancing research capabilities and reproducible data insights.

July 2016 – November 2019
Senior Researcher, *The NNF Center for Biosustainability*, Denmark
- Helped secure significant funding (€7.6M) from the EU Horizon 2020 program to support the development of Caffeine, an open-source SaaS platform for data- and model-driven synthetic biology design, as well as R&D efforts into cutting-edge multi-omics data integration and microbial community analysis and design.
- Developed and implemented cloud-native tech strategy and containerized service architecture leveraging GCP (GKE/K8s, Cloud SQL, Cloud Storage, Compute Engine).
- Hired, managed, and developed high-performance engineering team (4-5 team members).
- Coordinated the R&D efforts of academic partners and platform integration work to maximize value creation for key end users (both SMEs as well as large enterprises).
- Supported commercialisation efforts resulting in microbiome analysis startup Unseen Bio.

August 2013 – June 2016
Research Scientist, *The NNF Center for Biosustainability*, Denmark
- Embedded within multidisciplinary teams, supported cell engineering projects with advanced data analysis, metabolic modeling, and bioinformatics solutions.
- Developed and maintained open-source Python libraries for metabolic modeling used across academia and biotech industry.

March 2011 – July 2013
Postdoctoral Researcher, *Department of Bioengineering*, University of California, San Diego, USA
- Developed a highly interactive, notebook-based modeling environment, significantly enhancing research and teaching capabilities.

Education

January 2011 **Ph.D. in Bioinformatics**, *Jacobs University Bremen*, Germany, *with distinction*

July 2007 **Diploma in Biology (M.Sc. equivalent)**, *Technical University of Darmstadt*, Germany, *with distinction*

Skills

Leadership	Proven track record of leading cross-functional teams and steering complex projects to successful completion. Ability to wear many hats. Exceptional at hiring, developing, and retaining top talent, as well as gaining trust, inspiring, and motivating others.
Communication	Effective communicator, both in writing and in person, with extensive experience presenting to large audiences and C-level executives.
Software engineering	Expertise in developing cloud-based SaaS solutions with an agile mindset. Skilled in balancing tech debt and product work. Capable of navigating any codebase.
Product	Exceptional at handling both high-level product strategy as well as being in the weeds. Skilled in product discovery and user research, creating PRDs, roadmaps, strategy documents, and PR/FAQs under tight deadlines.
Tools and Platforms	Git, GitHub, GitLab, Docker, Docker Hub, Kubernetes, GitHub actions, travis-ci, GCP (Cloud SQL, GKE, Compute Engine, Cloud Storage), DigitalOcean
Generative AI & ML	Hands-on experience with deploying Generative AI solutions (based on OpenAI and Glean) into production software. Led R&D projects involving Deep learning (CNNs) and Active learning for optimal experimental design (PyTorch).
Programming languages	Python (expert), Mathematica (expert), Javascript (proficient), C (proficient), Matlab (proficient), SQL (proficient)
Databases	Snowflake, Postgres, MySQL, SQLite, HDF5, pytables, MongoDB, neo4j
Data science	Python + Pandas + Jupyter ecosystem for data munging, exploration, visualizations (scikit-learn, networkx, numpy, scipy). Cytoscape and Gephi for network exploration.
Scientific	Extensive expertise in Synthetic and Systems Biology, Computational Biology, and Bioinformatics applied to human health and biological engineering. Skilled at comprehending and diving deeply into various life science research and technology subjects.

Selected open-source code repositories

dd-decaf	Source code for Caffeine, an open-source SaaS platform for data- and model-driven cell design (∼75 monthly users; defunct since July 2023 due to a lack of funding).
cobrapy ☆ 449	Rearchitected software package and helped turn it into an open-source community project and the de facto standard in the field of constraint-based metabolic modeling.
memote ☆ 123	Led the development of a test suite & CI/CD tools for metabolic models and united the scientific community to set quality standards, published in Nature Biotechnology.

Publications

Published 44 articles that accumulated ∼3500 citations. Google Scholar profile: https://goo.gl/DzH3My