# JIANFENG SUN

computational biology, artificial intelligence, data science

I am working broadly in computational biology at the University of Oxford. I use mathematical algorithms to model biological systems in structural biology, molecular biology and cancer biology. I am carving out a niche for myself as a leading researcher in UMI-assisted research and computational drug discovery.
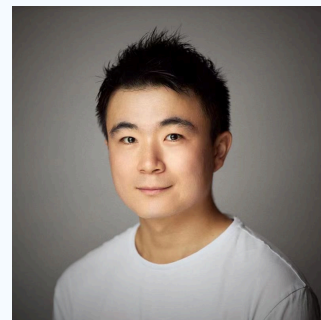
🎓 EDUCATION

2020 — 2017

Ph.D., Dr. rer. nat., Artificial Intelligence Structural Biology

Technical University of Munich — 📍 Munich, Germany

- biological - protein science, evolutionary biology
- computational - deep learning, statistics
- specifics - deep learning for predicting protein interaction sites

2014 — 2016

M.Eng., Software Engineering and Computational Biology

Beijing Forestry University — 📍 Beijing, China

- biological - genetics
- computational - algorithm design, web application development
- specifics - mathematical modelling for quantitative trait loci (QTLs) detection

2014 — 2011

B.S.Mgt.Sci., Accounting (minor dual-degree)

Nanjing Tech University — 📍 Nanjing, China

- economics

2014 — 2010

B.Sci., Information and Computer Science (i.e., Computational Mathematics)

Nanjing Tech University — 📍 Nanjing, China

- mathematics
- statistics
- programming

💻 RESEARCH EXPERIENCE

2025 — 2021

Postdoctoral Researcher in Single-cell Sequencing Analysis

University of Oxford — 📍 Oxford, United Kingdom

- biological - transcriptomics, protein science
- computational - deep learning, statistics
- duty - computational analysis of single-cell data in sarcoma diseases and algorithm design for accurate long-read sequencing technology

⬇ Download a PDF of this CV

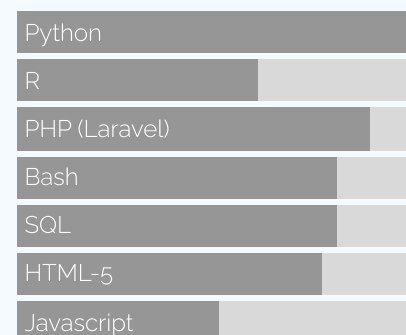## CONTACT

- ✉ jianfeng.sunmt@gmail.com
- ⌨ github.com/2003100127
- 🐦 Jianfeng_Sunny
- in jianfeng-sun-2ba9b1132
- 🔗 2003100127.github.io

LANGUAGE SKILLS

- Python
- R
- PHP (Laravel)
- Bash
- SQL
- HTML-5
- Javascript

Post-doctoral Studies in Transmembrane Proteome Analysis

2021
|
2020

Technical University of Munich 📍 Munich, Germany

- biological - protein isoforms, mutations, variants, interaction sites
- computational - machine learning, statistics
- duty - Occurrences of mutation sites and interaction sites in the human transmembrane proteome

💼 PROFESSIONAL SERVICE

Full member of Sigma XI, The Scientific Research Honor Society

Current
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2024

Oxford 📍 Oxford, United Kingdom

Young Editorial Member of iMeta

Current
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2024

Oxford 📍 Oxford, United Kingdom

🎓 THESIS

Prediction of residue contacts and interaction sites in transmembrane proteins using deep learning

2021
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2020

Technical University of Munich 📍 Munich, Germany

- Ph.D. Defense
- committee chairman - Prof. Bernhard Küster
- examiner - Prof. Burkhard Rost
- link - https://mediatum.ub.tum.de/doc/1577512

📖 ACADEMIC PUBLICATION

Journal Articles, Conference Proceedings, Book Chapters, etc.

Please refer a full list of my publications at the sites below

- Google Scholar
- ORCID
- ResearchGate

I updated my latest research at these websites on a regular basis. I primarily published articles in the topics of methods, computational tools, and their applications in molecular and disease biology.

〽 PATENT

Current
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2022

Silkworm silk gland recombinant expression vector for expressing human epidermal growth factor and preparation method and application thereof

China National Intellectual Property Administration (CNIPA)　📍 China

- inventors - Dingpei Long, Jian Cheng, Jianfeng Sun, Zhonghuai Xiang, and Fangyin Dai (by order)
- patent No. - CN112852876A
- link - https://patents.google.com/patent/CN112852876A/en?oq=cn112852876
- my role - algorithm design for deducing protein functions based on their experimental and predicted structures

💼 FUNDING

2024
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2023

Cancer Research UK (CRUK) Oxford Development Fund

University of Oxford　📍 Oxford, United Kingdom

- Project Title - Single-cell spliceosome map establishment of immune cells
- Award Ref - CRUKDF-MAY23–AC/JS

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2016

The web system for differentiating dynamic complex traits based on growth curve

Beijing Forestry University　📍 Beijing, China

- Copyright No. 2016SRBJ047
- Register - Beijing Forestry University
- Developer - Jianfeng Sun

2016
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2015

Climate Change Adaptation Information System for Beijing Landscape and Forestry Industry

Beijing Forestry University　📍 Beijing, China

- Copyright No. 2016SR098798
- Register - Zhibo Chen & Jianfeng Sun
- Developer - Jianfeng Sun

📖 SCIENTIFIC PROGRAM

Current
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2022

Workshop in computational single-cell sequencing analysis

Koç University　📍 Istanbul, Turkey

- my role - teaching assistant

I applied the golden rule to a protein material study: protein structures determine their functions. This is used to screen synthetic proteins with similar biological activities to commericialised proteins.

Current
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2017

Invited pre-doctoral programs by the International Max Planck Research School for Computational Biology and Scientific Computing (IMPRS-CBSC),

Max Planck Institute for Molecular Genetics ⦿ Berlin, Germany

💬 CONFERENCE

2019

2019 international conference on machine learning and cybernetics (ICMLC)

Kobe Convention Center ⦿ Kobe, Japan

· The LSTM Network for residue-residue contacts prediction

👥 OPEN TALK

2025

Artificial Intelligence Applications on Biomedical Data

Zoom online - RobotGym GmbH (German Company)

⦿ Oxford, United Kingdom

· Introduction of advanced artificial Intelligence methods, including language models and variational inference techniques, to the application in biomedical fields.

2020

Machine Learning in Structural Biology

Tecent VooV meeting online - Koushare Academic Platform

⦿ Munich, Germany

· Presentation and Q&A

🎖 AWARD

2024

Third Prize of The 8th China (Shenzhen) Innovation & Entrepreneurship International Competition (Milan Division)

Milan ⦿ Milan, Italy

2020

2nd rank among 20 screened teams in 2020 Munich Impact Hackathon Programming Competition

Munich ⦿ Munich, Germany

2016
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2015

China National Scholarship

Beijing Forestry University ⦿ Beijing, China

2015
|
2014

China National Scholarship

Beijing Forestry University ⦿ Beijing, China

2014
|
2013

University Third-prize Scholarship of Nanjing Tech University

Nanjing Tech University ⦿ Nanjing, China

2013	**University First-prize Scholarship of Nanjing Tech University**	
	Nanjing Tech University	📍 Nanjing, China

2012 | 2011	**University Third-prize Scholarship of Nanjing Tech University**	
	Nanjing Tech University	📍 Nanjing, China

2011	**University Third-prize Scholarship of Nanjing Tech University**	
	Nanjing Tech University	📍 Nanjing, China

2011 | 2010	**University Third-prize Scholarship of Nanjing Tech University**	
	Nanjing Tech University	📍 Nanjing, China

2011 | 2010	**Top 8 Finalist in the Nanjing Regional Finals of 2011 China's Got Talent**	
	Wanda Plaza	📍 Nanjing, China

· sponsor of this event - Dagexing Co., Ltd
· kind - dancing

⚒ COMPUTATIONAL TOOL

Current | 2025	**UMIche**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/umiche

Current | 2025	**mclUMI**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/mclumi

Current | 2025	**Tresor**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/tresor

Current | 2025	**PyPropel**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/pypropel

Current | 2023	**TMKit**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/tmkit

Current | 2024	**DeepdlncUD**	
	University of Oxford	📍 Oxford, United Kingdom

· Website - https://2003100127.github.io/deepdlncud

I am passionate about fantastic techniques applied in data science for biological systems. I have developed dozens of tools and methods, with nearly 15 publicly available to check and use. I will release more!!

Drutai

Current | 2024

University of Oxford

📍 Oxford, United Kingdom

・Website - https://2003100127.github.io/drutai

DeepsmirUD

Current | 2024

University of Oxford

📍 Oxford, United Kingdom

・Website - https://2003100127.github.io/deepsmirud

DeepTMInter

Current | 2021

Technical University of Munich

📍 Munich, Germany

・Website - https://2003100127.github.io/deeptminter

DeepHelicon

Current | 2020

Technical University of Munich

📍 Munich, Germany

・Website - https://2003100127.github.io/deephelicon

ResimPy

Current | 2024

University of Oxford

📍 Oxford, United Kingdom

・Website - https://resimpy.readthedocs.io/en/latest/index.html

PCSER

Current | 2025

University of Oxford

📍 Oxford, United Kingdom

・Website - https://2003100127.github.io/pcser