

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
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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
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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
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2011

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

Nanjing Tech University

📍 Nanjing, China

- economics

2014
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2010

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

Nanjing Tech University

📍 Nanjing, China

- mathematics
- statistics
- programming



RESEARCH EXPERIENCE

2025
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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



View this CV online with links at
github.com/2003100127/profiler

CONTACT

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🔗 github.com/2003100127

🐦 [Jianfeng_Sunny](#)

in [jianfeng-sun-2bagb1132](#)

@ 2003100127.github.io

LANGUAGE SKILLS

Python

R

PHP (Laravel)

Bash

SQL

HTML-5

Javascript

Last updated on 2025-04-07.

2021
|
2020

Post-doctoral Studies in Transmembrane Proteome Analysis

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

Current
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2024

Full member of Sigma XI, The Scientific Research Honor Society

Oxford

📍 Oxford, United Kingdom

Current
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2024

Young Editorial Member of iMeta

Oxford

📍 Oxford, United Kingdom



THESIS

2021
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2020

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

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 Scholar²
- ORCID³
- ResearchGate⁴

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?q=cn112852876>
- my role - algorithm design for deducing protein functions based on their experimental and predicted structures

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 commercialised proteins.

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

SOFTWARE COPYRIGHT

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

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

Tencent 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

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2014

China National Scholarship

Beijing Forestry University

📍 Beijing, China

2014

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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	DeepdIncUD University of Oxford	Oxford, United Kingdom
	• Website - https://2003100127.github.io/deepdIncud	

Current 2024	Drutai University of Oxford • Website - https://2003100127.github.io/drutai	📍 Oxford, United Kingdom
Current 2024	DeepsmirUD University of Oxford • Website - https://2003100127.github.io/deepsmirud	📍 Oxford, United Kingdom
Current 2021	DeepTMInter Technical University of Munich • Website - https://2003100127.github.io/deeptminter	📍 Munich, Germany
Current 2020	DeepHelicon Technical University of Munich • Website - https://2003100127.github.io/deephelicon	📍 Munich, Germany
Current 2024	ResimPy University of Oxford • Website - https://resimpy.readthedocs.io/en/latest/index.html	📍 Oxford, United Kingdom
Current 2025	PCSER University of Oxford • Website - https://2003100127.github.io/pcser	📍 Oxford, United Kingdom

LINKS

- 1: <https://www.ox.ac.uk/>
- 2: https://scholar.google.com/citations?hl=en&user=TfLBRgkAAAAJ&view_op=list_works&sortby=pubdate
- 3: <https://orcid.org/0000-0002-1274-5080>
- 4: <https://www.researchgate.net/profile/Jianfeng-Sun-12>

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!!