

# 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 UML-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  
|  
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](mailto:jianfeng.sunmt@gmail.com)

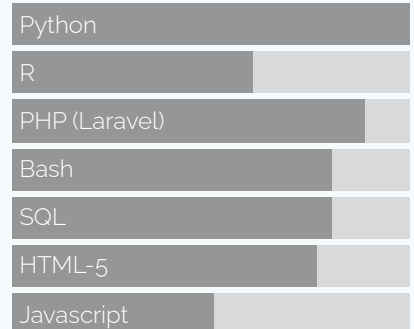
🐙 [github.com/2003100127](https://github.com/2003100127)

🐦 [Jianfeng\\_Sunny](#)

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

🔗 [2003100127.github.io](https://2003100127.github.io)

## LANGUAGE SKILLS



*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 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?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	<b>University First-prize Scholarship of Nanjing Tech University</b> Nanjing Tech University	Nanjing, China
2012   2011	<b>University Third-prize Scholarship of Nanjing Tech University</b> Nanjing Tech University	Nanjing, China
2011	<b>University Third-prize Scholarship of Nanjing Tech University</b> Nanjing Tech University	Nanjing, China
2011   2010	<b>University Third-prize Scholarship of Nanjing Tech University</b> Nanjing Tech University	Nanjing, China
2011   2010	<b>Top 8 Finalist in the Nanjing Regional Finals of 2011 China's Got Talent</b> Wanda Plaza	Nanjing, China
	<ul style="list-style-type: none"> <li>• sponsor of this event - Dagexing Co., Ltd</li> <li>• kind - dancing</li> </ul>	

## ✂ COMPUTATIONAL TOOL

Current   2025	<b>UMIche</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/umiche">https://2003100127.github.io/umiche</a></li> </ul>	
Current   2025	<b>mclUMI</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/mclumi">https://2003100127.github.io/mclumi</a></li> </ul>	
Current   2025	<b>Tresor</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/tresor">https://2003100127.github.io/tresor</a></li> </ul>	
Current   2025	<b>PyPropel</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/pypropel">https://2003100127.github.io/pypropel</a></li> </ul>	
Current   2023	<b>TMKit</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/tmkit">https://2003100127.github.io/tmkit</a></li> </ul>	
Current   2024	<b>DeepdIncUD</b> University of Oxford	Oxford, United Kingdom
	<ul style="list-style-type: none"> <li>• Website - <a href="https://2003100127.github.io/deepdIncud">https://2003100127.github.io/deepdIncud</a></li> </ul>	

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!!

Current  
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2024

### Drutai

University of Oxford

📍 Oxford, United Kingdom

• Website - <https://2003100127.github.io/drutai>

Current  
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2024

### DeepsmirUD

University of Oxford

📍 Oxford, United Kingdom

• Website - <https://2003100127.github.io/deepsmirud>

Current  
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2021

### DeepTMInter

Technical University of Munich

📍 Munich, Germany

• Website - <https://2003100127.github.io/deeptminter>

Current  
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2020

### DeepHelicon

Technical University of Munich

📍 Munich, Germany

• Website - <https://2003100127.github.io/deephelicon>

Current  
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2024

### ResimPy

University of Oxford

📍 Oxford, United Kingdom

• Website - <https://resimpy.readthedocs.io/en/latest/index.html>

Current  
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2025

### PCSER

University of Oxford

📍 Oxford, United Kingdom

• Website - <https://2003100127.github.io/pcser>