

# Resource Summary Report

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## FreeContact

RRID:SCR\_016113

Type: Tool

### Proper Citation

FreeContact (RRID:SCR\_016113)

### Resource Information

**URL:** <https://roslab.org/node/960>

**Proper Citation:** FreeContact (RRID:SCR\_016113)

**Description:** Alignment software for large-scale protein contact or protein-protein interaction prediction optimized for speed through shorter runtimes. FreeContact provides the opportunity to compute contact predictions in any environment (desktop or cloud).

**Resource Type:** image analysis software, alignment software, software application, software resource, data processing software

**Defining Citation:** [PMID:24669753](https://pubmed.ncbi.nlm.nih.gov/24669753/), [DOI:10.1186/1471-2105-15-85](https://doi.org/10.1186/1471-2105-15-85)

**Keywords:** protein, structure, prediction, sequence, analysis, fast, contact, alignment, multiple

**Funding:** Alexander von Humboldt Foundation ;  
German Ministry for Research and Education (BMBF: Bundesministerium fuer Bildung und Forschung) ;  
Research Council of Norway 208481

**Availability:** Open source, Free, Available for download

**Resource Name:** FreeContact

**Resource ID:** SCR\_016113

**Alternate IDs:** OMICS\_03520

**Alternate URLs:** <https://roslab.org/owiki/index.php/FreeContact>,  
<https://sources.debian.org/src/libfreecontact-perl/>

**License:** GPLv3

**Record Creation Time:** 20220129T080328+0000

**Record Last Update:** 20260801T190740+0000

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## Ratings and Alerts

No rating or validation information has been found for FreeContact.

No alerts have been found for FreeContact.

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## Data and Source Information

**Source:** [SciCrunch Registry](#)

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## Usage and Citation Metrics

We found 21 mentions in open access literature.

**Listed below are recent publications.** The full list is available at [T1D](#) .

Sun J, et al. (2023) TMKit: a Python interface for computational analysis of transmembrane proteins. Briefings in bioinformatics, 24(5).

Rahman J, et al. (2022) Enhancing protein inter-residue real distance prediction by scrutinising deep learning models. Scientific reports, 12(1), 787.

Sun J, et al. (2021) Improved sequence-based prediction of interaction sites in  $\alpha$ -helical transmembrane proteins by deep learning. Computational and structural biotechnology journal, 19, 1512.

Zheng W, et al. (2021) Folding non-homologous proteins by coupling deep-learning contact maps with I-TASSER assembly simulations. Cell reports methods, 1(3).

Mortuza SM, et al. (2021) Improving fragment-based ab initio protein structure assembly using low-accuracy contact-map predictions. Nature communications, 12(1), 5011.

Bhattacharya S, et al. (2020) Evaluating the significance of contact maps in low-homology protein modeling using contact-assisted threading. Scientific reports, 10(1), 2908.

Xiao Y, et al. (2020) Experimental determination and data-driven prediction of homotypic transmembrane domain interfaces. Computational and structural biotechnology journal, 18, 3230.

Wu T, et al. (2020) Analysis of several key factors influencing deep learning-based inter-residue contact prediction. Bioinformatics (Oxford, England), 36(4), 1091.

Téletchéa S, et al. (2019) Repository of Enriched Structures of Proteins Involved in the Red Blood Cell Environment (RESPIRE). PloS one, 14(2), e0211043.

- Hou J, et al. (2019) Protein tertiary structure modeling driven by deep learning and contact distance prediction in CASP13. *Proteins*, 87(12), 1165.
- Kandathil SM, et al. (2019) Prediction of interresidue contacts with DeepMetaPSICOV in CASP13. *Proteins*, 87(12), 1092.
- Wang Y, et al. (2019) Fueling ab initio folding with marine metagenomics enables structure and function predictions of new protein families. *Genome biology*, 20(1), 229.
- Adhikari B, et al. (2018) DNCON2: improved protein contact prediction using two-level deep convolutional neural networks. *Bioinformatics (Oxford, England)*, 34(9), 1466.
- Buchan DWA, et al. (2017) EigenTHREADER: analogous protein fold recognition by efficient contact map threading. *Bioinformatics (Oxford, England)*, 33(17), 2684.
- Thomas JMH, et al. (2017) Approaches to ab initio molecular replacement of  $\alpha$ -helical transmembrane proteins. *Acta crystallographica. Section D, Structural biology*, 73(Pt 12), 985.
- de Oliveira SH, et al. (2017) Comparing co-evolution methods and their application to template-free protein structure prediction. *Bioinformatics (Oxford, England)*, 33(3), 373.
- Alcock F, et al. (2016) Assembling the Tat protein translocase. *eLife*, 5.
- Fox G, et al. (2016) Using de novo protein structure predictions to measure the quality of very large multiple sequence alignments. *Bioinformatics (Oxford, England)*, 32(6), 814.
- Rawi R, et al. (2016) COUSCOUS: improved protein contact prediction using an empirical Bayes covariance estimator. *BMC bioinformatics*, 17(1), 533.
- Jones DT, et al. (2015) MetaPSICOV: combining coevolution methods for accurate prediction of contacts and long range hydrogen bonding in proteins. *Bioinformatics (Oxford, England)*, 31(7), 999.