SciPy

Not just a conference!

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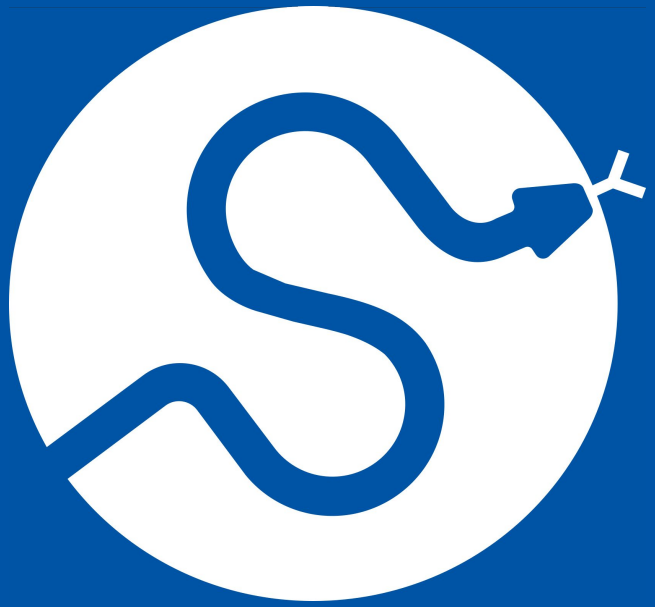
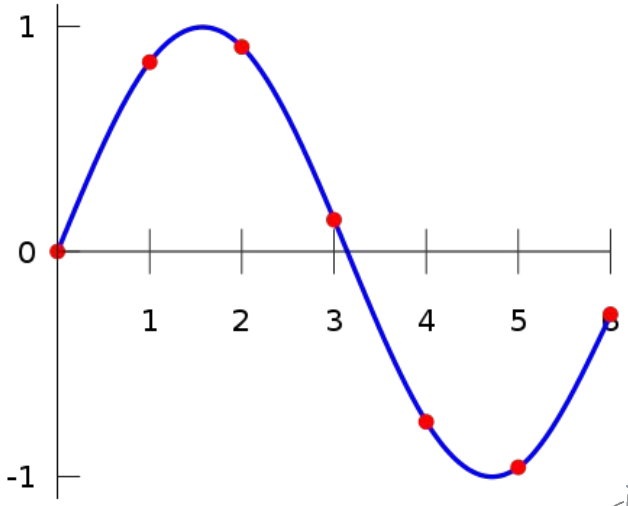
SciPy Core Developer
Assistant Professor, Cal Poly



SciPy – The Library



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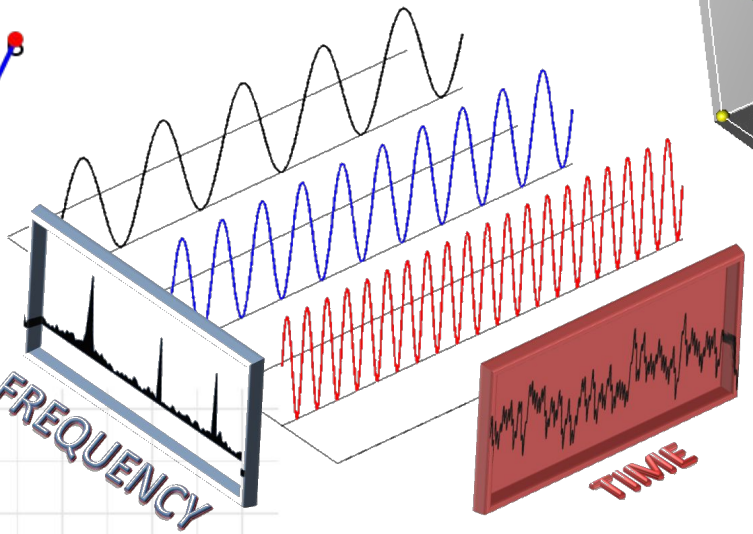
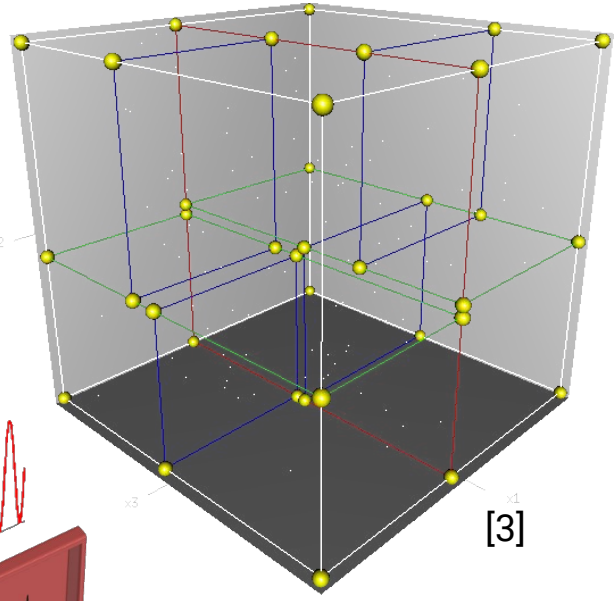
[2]





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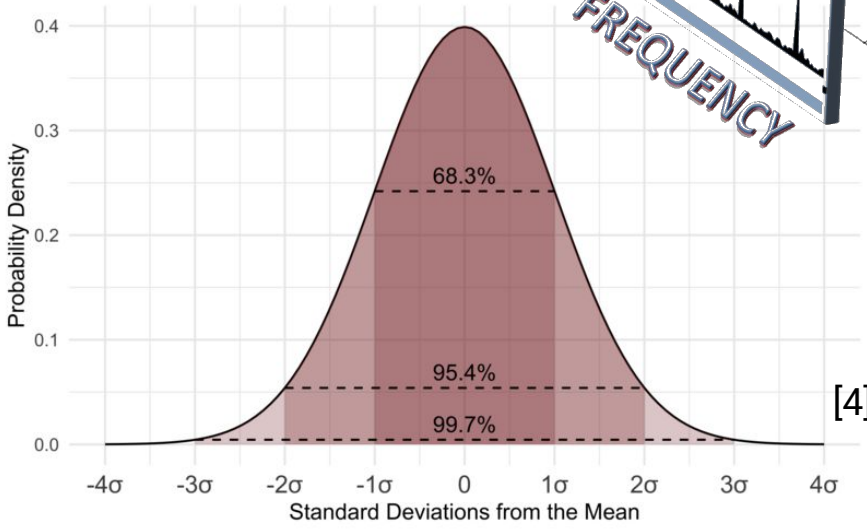

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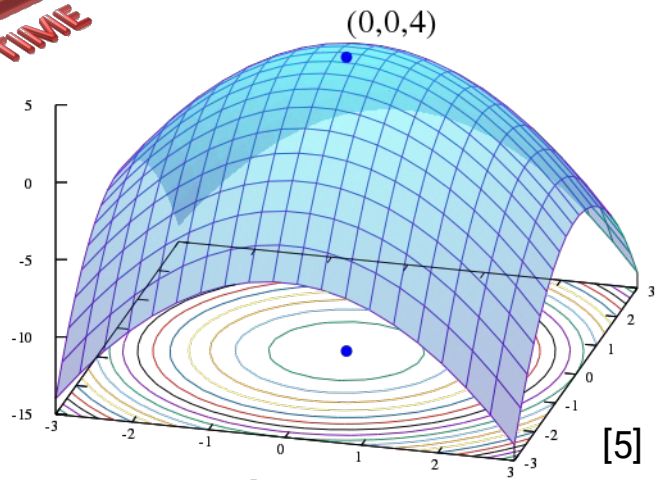
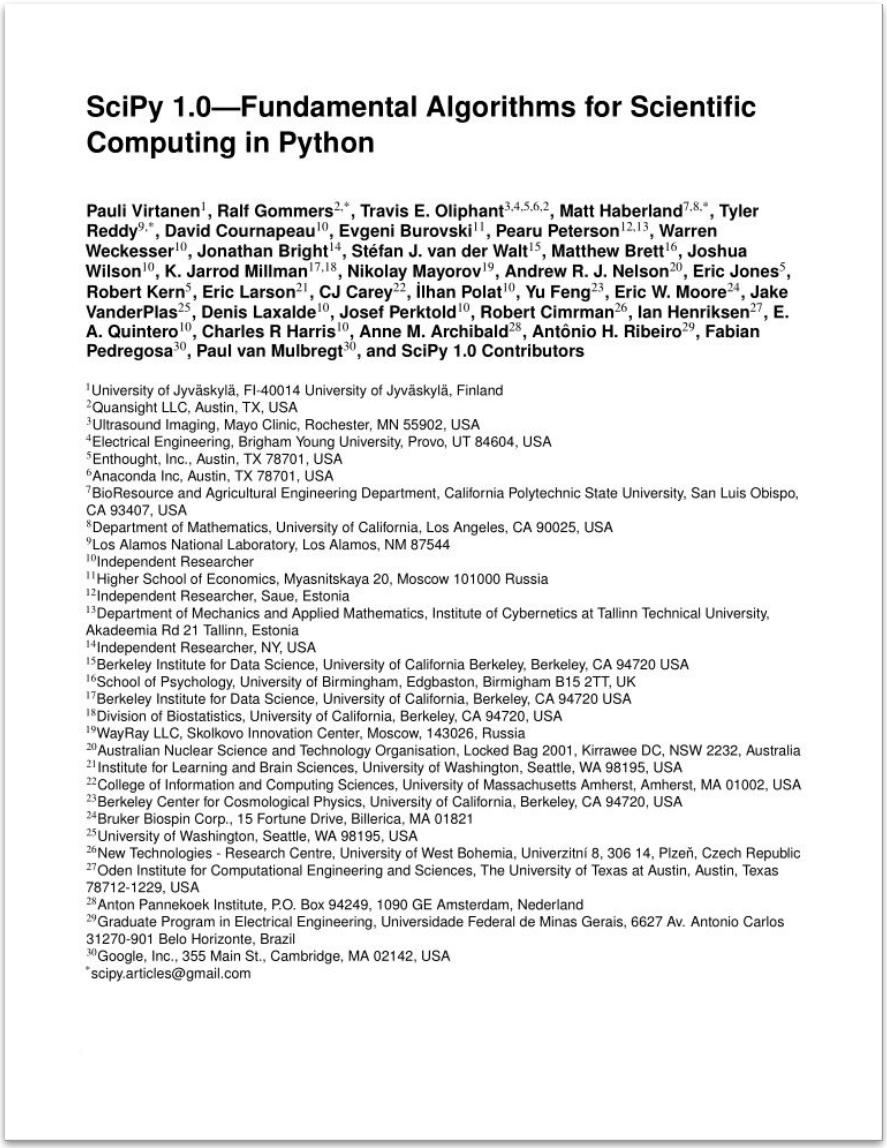


[5]

Notable Uses

Credit: Event Horizon Telescope Collaboration, https://eventhorizontelescope.org/

News



SciPy 1.0—Fundamental Algorithms for Scientific Computing in Python

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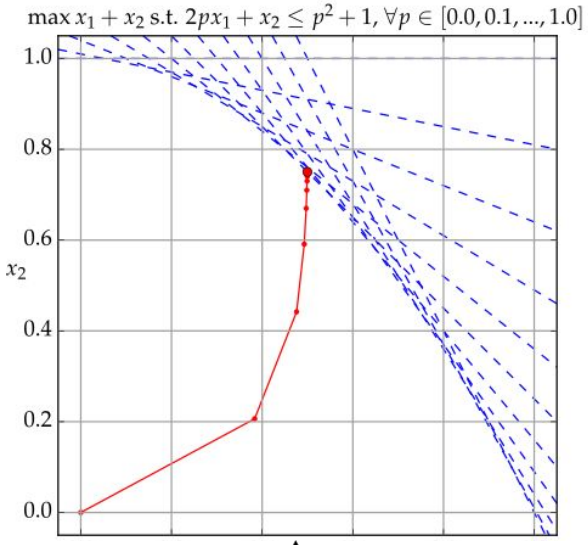
NUMFOCUS

OPEN CODE = BETTER SCIENCE

Recent Improvements

Improved Linear Programming



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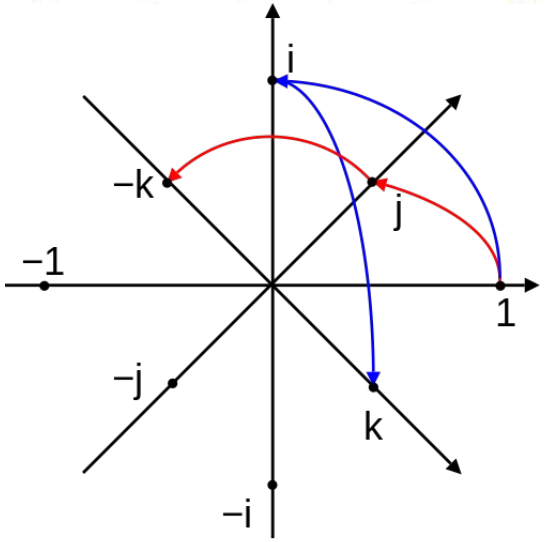
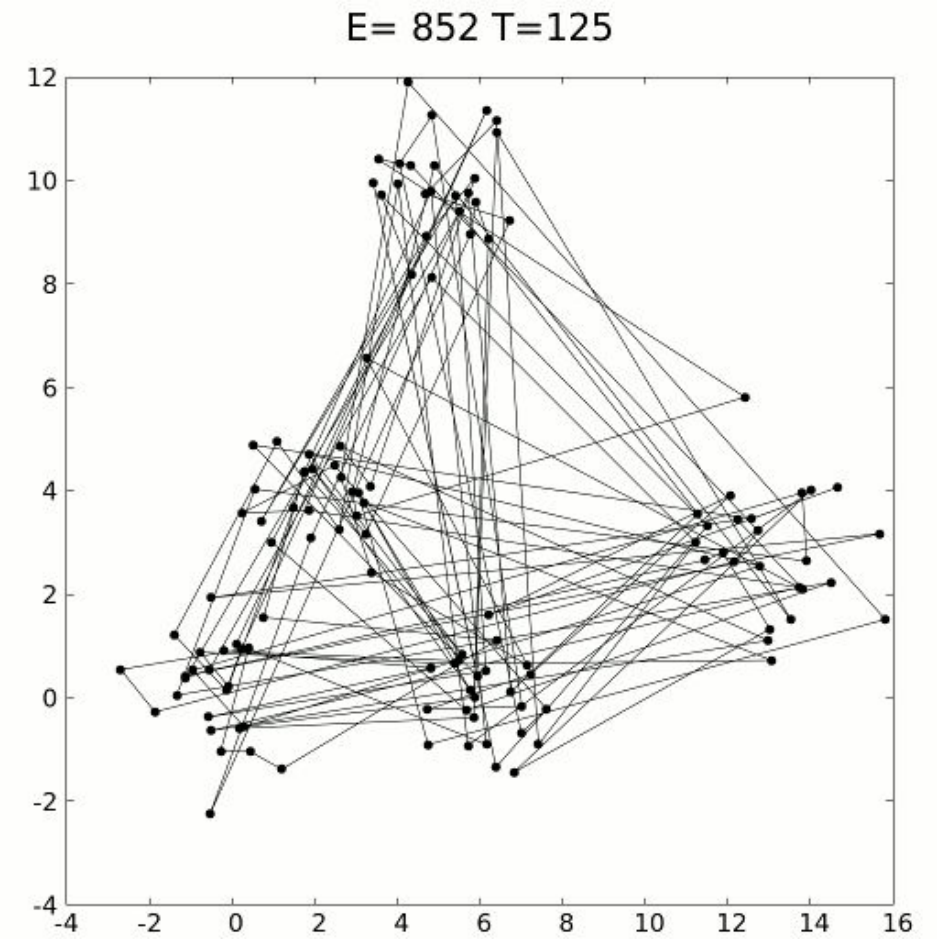


[7]

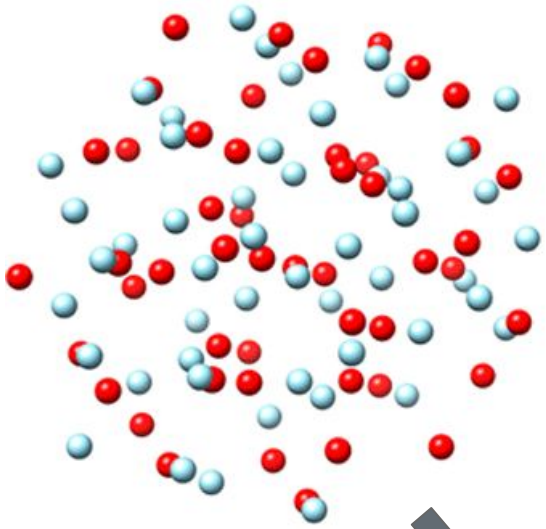
New Quaternion Features

New Global Optimization Methods

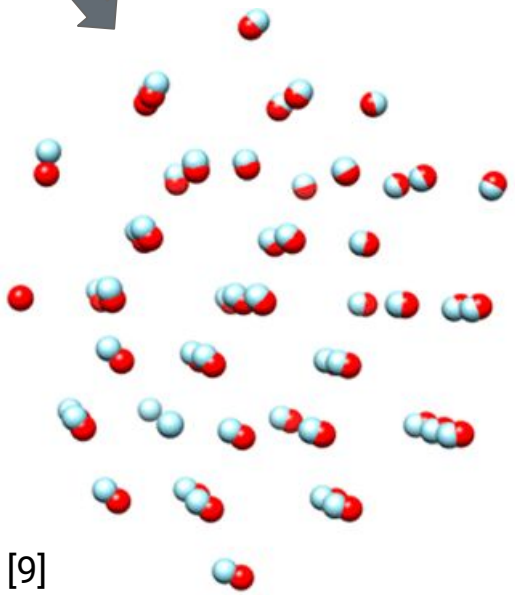


[8]

Coming Attractions



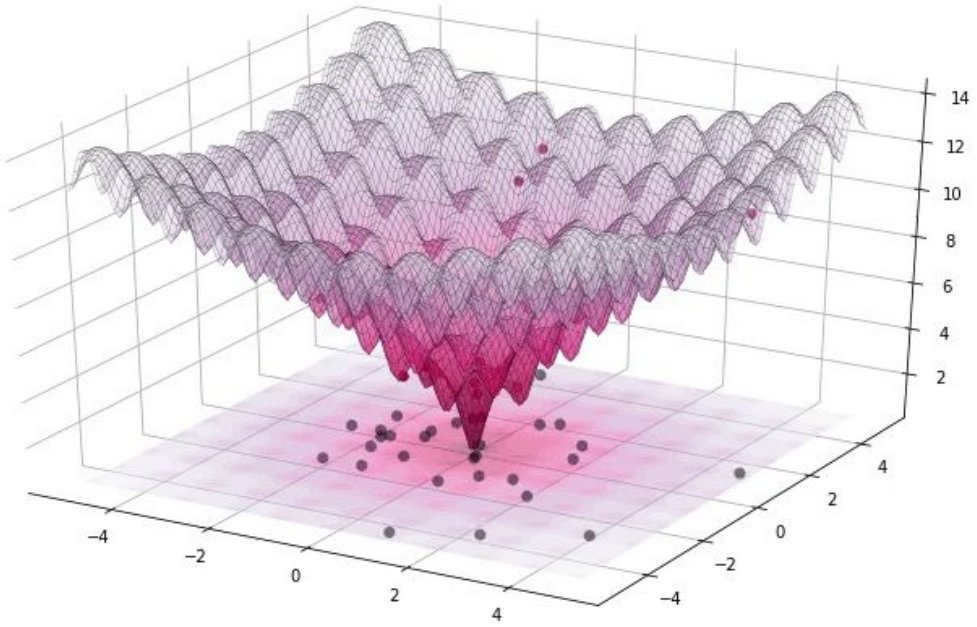
C++ Linear Assignment



[9]

pocketfft

$$X(k) = W^{-\frac{1}{2}k^2} \left(x_q * w_q\right)_k$$



Constrained Differential Evolution

[10]

Roadmap

Sparse *N*-D Arrays

L A P A C K

L -A P -A C -K

L A P A -C -K

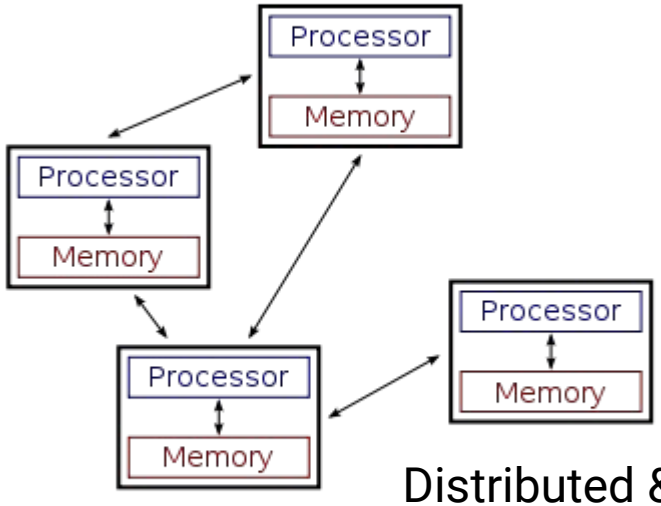
L -A P -A -C K

L A -P -A C K

L -A -P A C -K

[11] Evolve BLAS / LAPACK Support

[12]



Distributed & GPU Array Support

[13]

See you at the sprint!

References

[1] Wikimedia User:Berland. https://commons.wikimedia.org/wiki/File:Interpolation_example_spline.svg. Included without modification

[2] Networks at MIT. SFFT: Sparse Fast Fourier Transform. https://groups.csail.mit.edu/netmit/sFFT/algorithm.html. Included without modification.

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[5] Wikimedia User:IkamusumeFan. https://commons.wikimedia.org/wiki/File:Max_paraboloid.svg. Included without modification.

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[9] Temelso, Berhane, et al. "ArbAlign: A Tool for Optimal Alignment of Arbitrarily Ordered Isomers Using the Kuhn–Munkres Algorithm." *Journal of chemical information and modeling* 57.5 (2017): 1045-1054.

[10] Wikimedia User:Pablomier. https://commons.wikimedia.org/wiki/File:Ackley.gif. Included without modification.

[11] Wikimedia User:Karsten Adam. https://commons.wikimedia.org/wiki/File:LAPACK_logo.svg. Included without modification.

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[13] Public Domain. https://commons.wikimedia.org/wiki/File:Geforce3gpu.jpg. Included without modification.