

# nimsco: A Nim package for Compositional Space Optimization

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## Summary

The Compositionally Complex Materials (CCMs), and their metal-focused subset of High Entropy Alloys (HEAs), belong to a rapidly emerging class of materials, first proposed by (Cantor et al., 2004) and (Yeh et al., 2004). Contrary to more traditional materials, they contain a large number of chemical elements, typically 4-9 in similar proportions, in hope to thermodynamically stabilize the material by increasing its configurational entropy, by up to  $\Delta S_{conf} = -R \sum_i x_i \ln x_i$  for ideally random mixing of  $N$  elements with fractions  $x_i$ .

## Statement of Need

Statement of need

## Methods and Performance

Methods and Performance

## Acknowledgements

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## References

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