

Pursuing Active Manifolds via Nonlinear Optimization

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Abstract

I. Introduction

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This paragraph should introduce the Curse of Dimensionality; the motivation behind Dimension Reduction. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris eu vehicula diam, quis tempus nunc. Nunc rutrum leo vitae placerat lacinia. Nulla sodales, sem quis imperdiet dictum, felis ante iaculis erat, vel tincidunt odio urna eget erat. Sed eu faucibus neque, tempus porttitor augue. Fusce nec semper lectus, a varius est. Fusce ultricies euismod enim vel porta. Suspendisse accumsan, libero dignissim consectetur eleifend, nulla ligula dictum tellus, sit amet placerat risus diam in ipsum. Donec leo turpis, porta sit amet ipsum sit amet, mattis varius ipsum. Praesent ac ante aliquet, lacinia nulla in, interdum nunc. Curabitur dictum porta ipsum, at egestas libero blandit vitae. Sed tristique viverra erat. Ut mauris eros, bibendum sed massa vel, congue dignissim tortor. Interdum et malesuada fames ac ante ipsum primis in faucibus. Nullam consectetur sed sapien sed sollicitudin. Curabitur et justo a dolor pulvinar tincidunt non ac lacus.

This paragraph should introduce Active Subspaces, give an example of its use, and discuss some limitations.¹ Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris eu vehicula diam, quis tempus nunc. Nunc rutrum leo vitae placerat lacinia. Nulla sodales, sem quis imperdiet dictum, felis ante iaculis erat, vel tincidunt odio urna eget erat. Sed eu faucibus neque, tempus porttitor augue. Fusce nec semper lectus, a varius est. Fusce ultricies euismod enim vel porta. Suspendisse accumsan, libero dignissim consectetur eleifend, nulla ligula dictum tellus, sit amet placerat risus diam in ipsum. Donec leo turpis, porta sit amet ipsum sit amet, mattis varius ipsum. Praesent ac ante aliquet, lacinia nulla in, interdum nunc. Curabitur dictum porta ipsum, at egestas libero blandit vitae. Sed tristique viverra erat. Ut mauris eros, bibendum sed massa vel, congue dignissim tortor. Interdum et malesuada fames ac ante ipsum primis in faucibus. Nullam consectetur sed sapien sed sollicitudin. Curabitur et justo a dolor pulvinar tincidunt non ac lacus.

This paragraph should briefly introduce the idea of Active Manifolds.

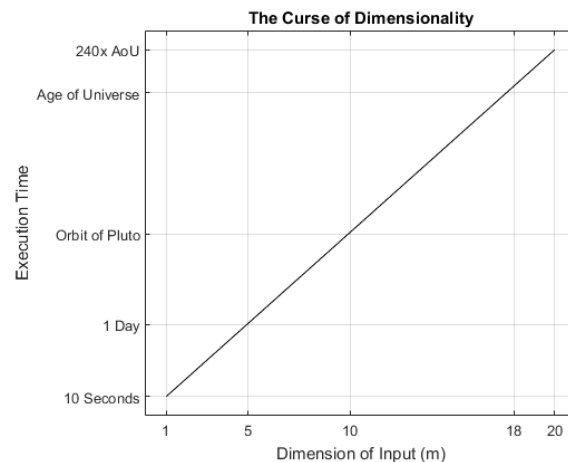


Figure 1. The execution time of many studies increases exponentially with the dimensionality of parameter space.

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II. Seeking Active Manifolds

III. Conclusion

This had been a brief example of some of the more advanced options available for L^AT_EX. Please see the documentation for each package for extended discussion or usage.

References

¹Constantine, P., *Active Subspaces: Emerging Ideas for Dimension Reduction in Parameter Studies*, SIAM Philadelphia, 2015.

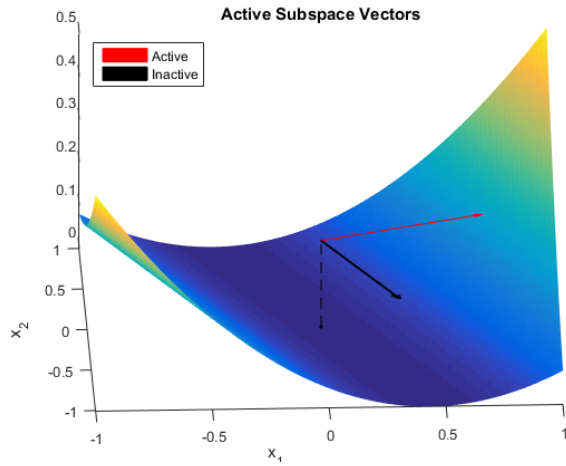


Figure 2. Example of Active Subspaces.