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Alternatives for optimization in systems and control: convex and non-convex approaches

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In this presentation, we will develop a short overview of main trends of optimization in systems and control, and from there outline some new perspectives emerging today. More specifically, we will focus on the current situation, where it is clear that convex and Linear Matrix Inequality (LMI) methods have become the most common option. However, because of its vast success, the convex approach is often the only direction considered, despite the underlying problem is non-convex and that other optimization methods specifically equipped to handle such problems should have been used instead. We will present key points on this topic, and as a side result we will propose a method to produce a virtually infinite number of papers.

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