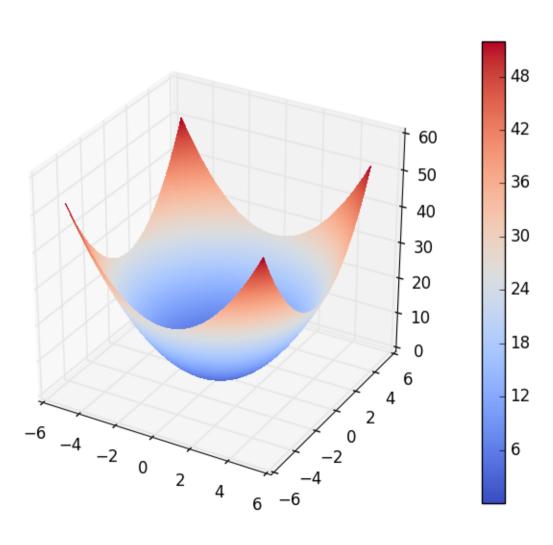
## Sphere

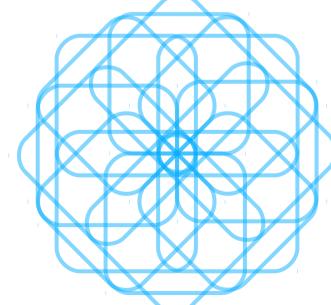


$$f(x) = \sum_{i=1}^{n} x_i^2$$

$$x^* = 0$$

$$f(x^*) = 0$$

$$x_i \in [-5.12, +5.12]$$



## Rosenbrock

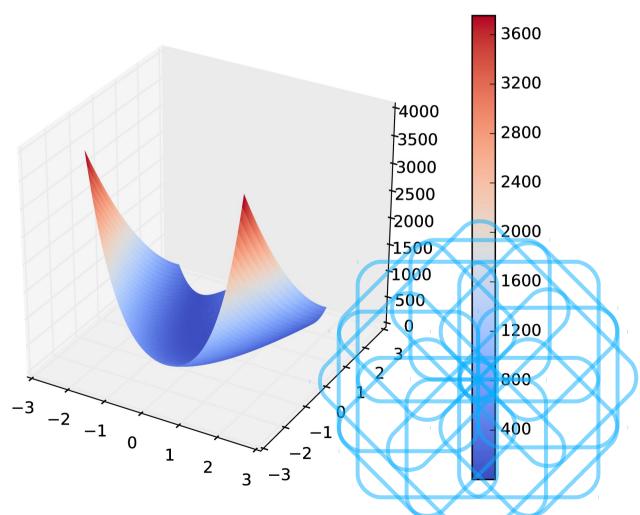
$$f(x) = \sum_{i=1}^{n-1} [100(x_{i+1} - x_i^2)^2 + (x_i - 1)^2]$$

$$x^* = [1, ..., 1]$$

$$f(x^*) = 0$$

$$f(x^*) = 0$$

$$x_i \in [-2.048, +2.048]$$



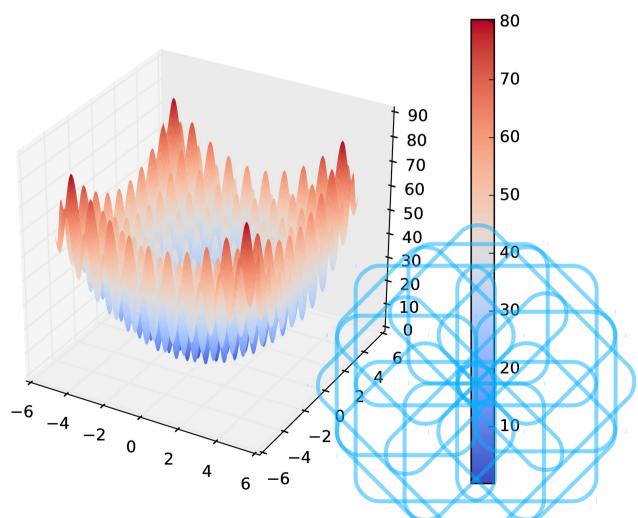
## Rastrigin

$$f(x) = 10n + \sum_{i=1}^{n} x_{i}^{2} - 10\cos(2\pi x_{i})$$

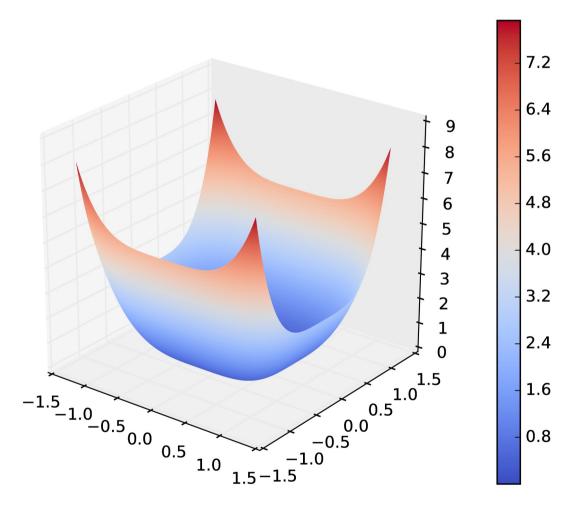
$$x^{*} = 0$$

$$f(x^{*}) = 0$$

$$x_i \in [-5.12, +5.12]$$



## Quartic



$$f(x) = \sum_{i=1}^{n} ix_{i}^{4}$$

$$x^{*} = 0$$

$$f(x^{*}) = 0$$

$$x_{i} \in [-1.28, +1.28]$$

