

Another application of the multivariable minimizer is to convexify a function. Suppose we have a function.

$$f(x) = x^4 - x^2/2 + x/3 \quad (1)$$

The following function is the convexified version of it

$$F(x) = \inf_{x_1 < x < x_2} \left[ f(x_1) + \frac{f(x_2) - f(x_1)}{x_2 - x_1} (x - x_1) \right] \quad (2)$$

