

# Grammatical Evolution

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<http://cw.felk.cvut.cz/doku.php/courses/a0m33eoa/start>







































# Grammatical Evolution for Symbolic Regression

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Experimental setup:

Objective :	Find a function of one independent variable and one dependent variable, in symbolic form that fits a given sample of 20 $(x_i, y_i)$ data points, where the target function is the quartic polynomial $X^4 + X^3 + X^2 + X$
Terminal Operands:	$X$ (the independent variable), 1.0
Terminal Operators	The binary operators $+$ , $*$ , $/$ , and $-$ The unary operators Sin, Cos, Exp and Log
Fitness cases	The given sample of 20 data points in the interval $[-1, +1]$ i.e. $\{-1, -.9, -.8, -.76, -.72, -.68, -.64, -.4, -.2, 0, .2, .4, .63, .72, .81, .90, .93, .96, .99, 1\}$
Raw Fitness	The sum, taken over the 20 fitness cases, of the error
Standardised Fitness	Same as raw fitness
Wrapper	Standard productions to generate C functions
Parameters	Population Size = 500, Termination when Generations = 51 Prob. Mutation = 0.01, Prob. Crossover = 0.9 Prob. Duplication = 0.01



























