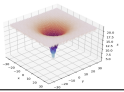
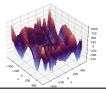
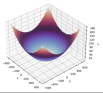
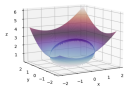
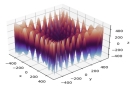
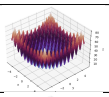
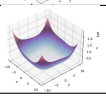
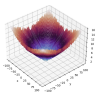
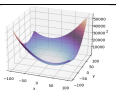
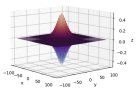
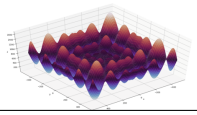
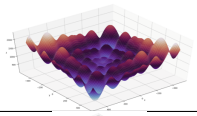
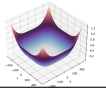
function	Definition, Domain and global optimum $f(\vec{x}^*)$	3-D Plot
Ackley	$f(\vec{x}) = -20exp(-0.2\sqrt{\frac{1}{n}\sum_{i=1}^{n} x_i^2}) - exp(\frac{1}{n}\sum_{i=1}^{n} cos(2\pi x_i)) + a + exp(1)$ $x_i \in [-32, 32]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Eggholder	$f(\vec{x}) = \sum_{i=1}^{n-1}[-x_i sin(\sqrt{\lvert x_i - x_{i+1} - 47\rvert}) - (x_{i+1} + 47)sin(\sqrt{\lvert 0.5x_i + x_{i+1} + 47\rvert})]$ $x_i \in [-512, 512]$ $f(\vec{x}^*) = -959.64$, with $x^* = (512, 404)$ for $n = 2$	
Griewank	$f(\vec{x}) = 1 + \sum_{i=1}^{n} \frac{x_i^2}{4000} - \prod_{i=1}^{n} cos(\frac{x_i}{\sqrt{i}})$ $x_i \in [-600, 600]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Happy Cat	$f(\vec{x}) = \left[\left(\lvert\lvert\mathbf{x}\rvert\rvert^2 - n\right)^2\right]^{\alpha} + \frac{1}{n}\left(\frac{1}{2}\lvert\lvert\mathbf{x}\rvert\rvert^2 + \sum_{i=1}^{n} x_i\right) + \frac{1}{2}$ $x_i \in [-2, 2]$ $f(\vec{x}^*) = 0$, with $x^* = (-1, \ldots, -1)$	
Rana	$f(\vec{x}) = \sum_{i=1}^{n}[x_i sin(t_2)cos(t_1) + (x_1 + 1)sin(t_1)cos(t_2)]$ with $t_1 = \sqrt{\lvert x_1 + x_i + 1\rvert}$ and $t_2 = \sqrt{\lvert x_1 - x_i + 1\rvert}$ $x_i \in [-500, 500]$ $f(\vec{x}^*) = -959.64$, with $x^* = (512, 404)$ for $n = 2$	
Rastrigin	$f(\vec{x}) = 10n + \sum_{i=1}^{n}(x_i^2 - 10cos(2\pi x_i))$ $x_i \in [-5.12, 5.12]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Rosenbrock	$f(\vec{x}) = \sum_{i=1}^{n}[100(x_{i+1} - x_i^2)^2 + (1 - x_i)^2]$ $x_i \in [-5, 10]$ $f(\vec{x}^*) = 0$, with $x^* = (1, \ldots, 1)$	
Salomon	$f(\vec{x}) = 1 - cos(2\pi\sqrt{\sum_{i=1}^{D} x_i^2}) + 0.1\sqrt{\sum_{i=1}^{D} x_i^2}$ $x_i \in [-100, 100]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Sargan	$f(\vec{x}) = \sum_{i=1}^{n} n(x_i^2 + 0.4\sum_{j \neq i}^{n} x_i x_j)$ $x_i \in [-100, 100]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Schaffer F6	$f(\vec{x}) = \sum_{i=1}^{n} 0.5 + \frac{sin^2(\sqrt{x_i^2 + x_{i+1}^2}) - 0.5}{[1 + 0.001 \cdot (x_i^2 + x_{i+1}^2)]^2}$ $x_i \in [-100, 100]$ $f(\vec{x}^*) = 0$, with $x^* = (0, \ldots, 0)$	
Schwefel 2.26	$f(\vec{x}) = 418.9829n - \sum_{i=1}^{n} x_i \sin\sqrt{\lvert x_i\rvert}$ $x_i \in [-500, 500]$ $f(\vec{x}^*) = 0$, with $x^* = (420, 968746, \ldots, 420, 968746)$	
Penalized Schwefel 2.26	$f(\vec{x}) = 418.9829n - \sum_{i=1}^{n} x_i \sin\sqrt{\lvert x_i\rvert} + \left\lvert \sum_{i=1}^{\frac{n}{2}} x_{2i} - \sum_{i=1}^{\frac{n}{2}} x_{2i-1} \right\rvert$ $x_i \in [-500, 500]$ $f(\vec{x}^*) = 0$, with $x^* = (420, 968746, \ldots, 420, 968746)$	
Qing	$f(\vec{x}) = \sum_{i=1}^{n}(x^2 - i)^2$ $x_i \in [-500, 500]$ $f(\vec{x}^*) = 0$, with $x^* = (\pm\sqrt{i}, \ldots, \pm\sqrt{i})$	

TABLE IV: Benchmark functions

	dimension	DM	FEM_{macro}	FEM_{micro}	SEM_{macro}	SEM_{micro}	PIC_{macro}	PIC_{micro}	$separable$
$schwefel_{2.2.6}\,Pen$	50	-0.006	0.869	0.659	0.566	0.729	0.609	0.316	0
	100	-0.005	0.87	0.667	0.57	0.733	0.61	0.324	0
$schwefel_{2.2.6}$	50	0.011	0.873	0.667	0.56	0.731	0.615	0.316	1
	100	-0.001	0.874	0.668	0.565	0.734	0.622	0.326	1
$rastrigin$	50	-0.278	0.881	0.641	0.522	0.722	0.658	0.298	1
	100	-0.191	0.88	0.62	0.526	0.728	0.655	0.278	1
$griewank$	50	-0.395	0.695	0.336	0.703	0.798	0.354	0.101	0
	100	-0.273	0.694	0.281	0.707	0.804	0.349	0.07	0
$ackley$	50	-0.322	0.872	0.885	0.531	0.515	0.64	0.682	0
	100	-0.216	0.868	0.884	0.536	0.526	0.642	0.665	0
$eggholder$	50	0.053	0.882	0.733	0.527	0.677	0.659	0.4	0
	100	0.025	0.884	0.739	0.531	0.677	0.664	0.406	0
$qing$	50	-0.364	0.747	0.398	0.667	0.788	0.405	0.138	0
	100	-0.254	0.743	0.351	0.674	0.796	0.407	0.118	0
$salomon$	50	-0.372	0.83	0.896	0.605	0.519	0.526	0.643	0
	100	-0.262	0.816	0.881	0.614	0.54	0.523	0.611	0
$rana$	50	0.024	0.887	0.771	0.505	0.653	0.698	0.453	0
	100	0.014	0.889	0.776	0.508	0.652	0.7	0.463	0
$sargan$	50	-0.28	0.69	0.603	0.728	0.783	0.357	0.265	0
	100	-0.173	0.697	0.618	0.735	0.79	0.373	0.28	0
$schaffer_{f6}$	50	-0.066	0.875	0.755	0.509	0.568	0.693	0.737	0
	100	-0.038	0.882	0.758	0.51	0.572	0.698	0.737	0
$rosenbrock$	50	-0.291	0.727	0.4	0.678	0.784	0.382	0.135	0
	100	-0.192	0.722	0.343	0.684	0.795	0.381	0.109	0
$happycat$	50	-0.374	0.697	0.241	0.696	0.773	0.355	0.115	0
	100	-0.263	0.688	0.197	0.705	0.777	0.353	0.085	0

TABLE V: Fitness landscape metrics for reflected benchmarks