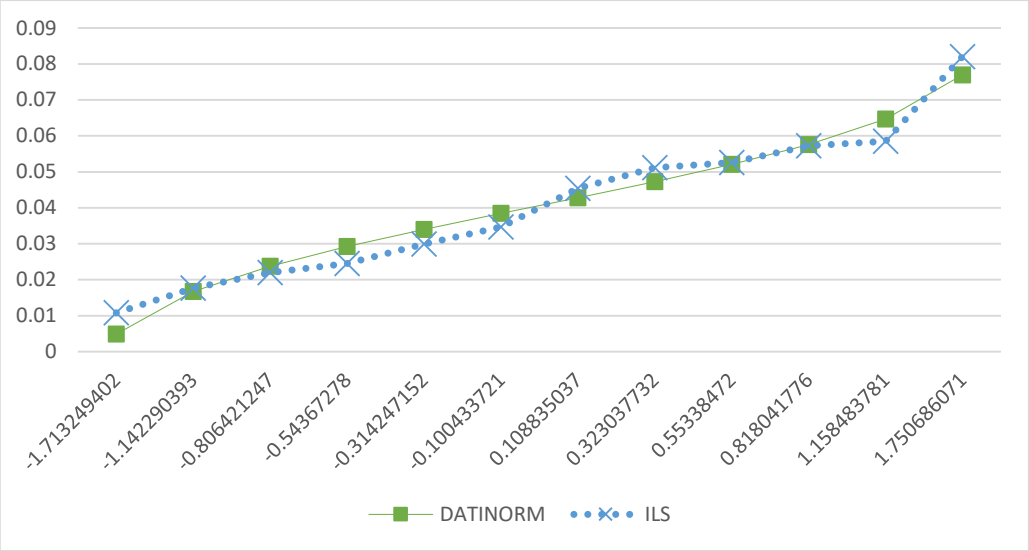
TEST DI NORMALITÀ DEI DATI A PAG. 2

ILS	CDFNORM	CDFNORMZ	DATINORM
1.08%	0.043	-1.713	0.005
1.77%	0.127	-1.142	0.017
2.20%	0.210	-0.806	0.024
2.45%	0.293	-0.544	0.029
2.99%	0.377	-0.314	0.034
3.47%	0.460	-0.100	0.038
4.54%	0.543	0.109	0.043
5.12%	0.627	0.323	0.047
5.26%	0.710	0.553	0.052
5.72%	0.793	0.818	0.058
5.85%	0.877	1.158	0.065
8.20%	0.960	1.751	0.077

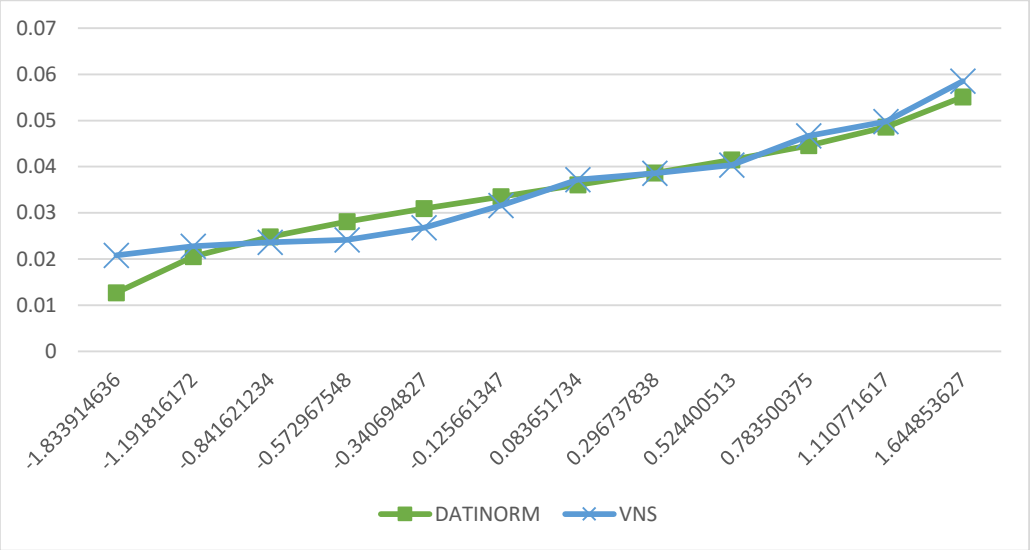
n	12
avg	4.05%
DS	0.020808



VNS	CDFNORM	CDFNORMZ	DATINORM
2.08%	0.033	-1.834	0.013
2.27%	0.117	-1.192	0.021
2.36%	0.200	-0.842	0.025
2.41%	0.283	-0.573	0.028
2.68%	0.367	-0.341	0.031
3.16%	0.450	-0.126	0.034
3.72%	0.533	0.084	0.036
3.86%	0.617	0.297	0.039
4.04%	0.700	0.524	0.041
4.67%	0.783	0.784	0.045
4.97%	0.867	1.111	0.049
5.85%	0.950	1.645	0.055

n	12

avg	3.51%
ds	0.012183



Entrambe le distribuzioni possono essere ritenute normali

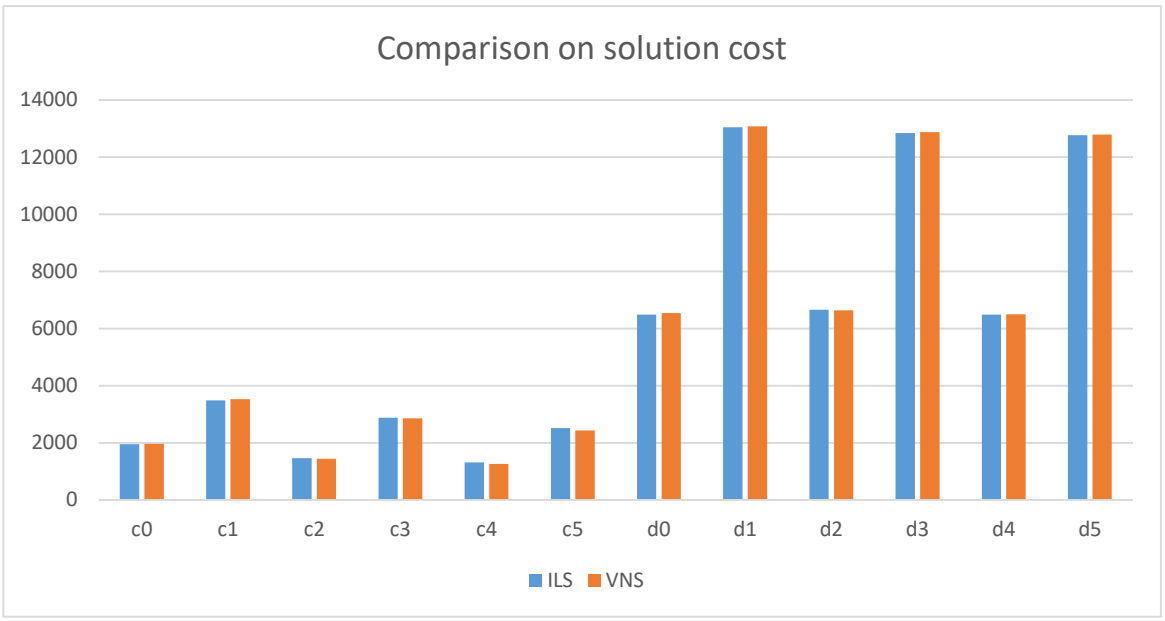
Confronto delle due metaeuristiche con t-test a due code

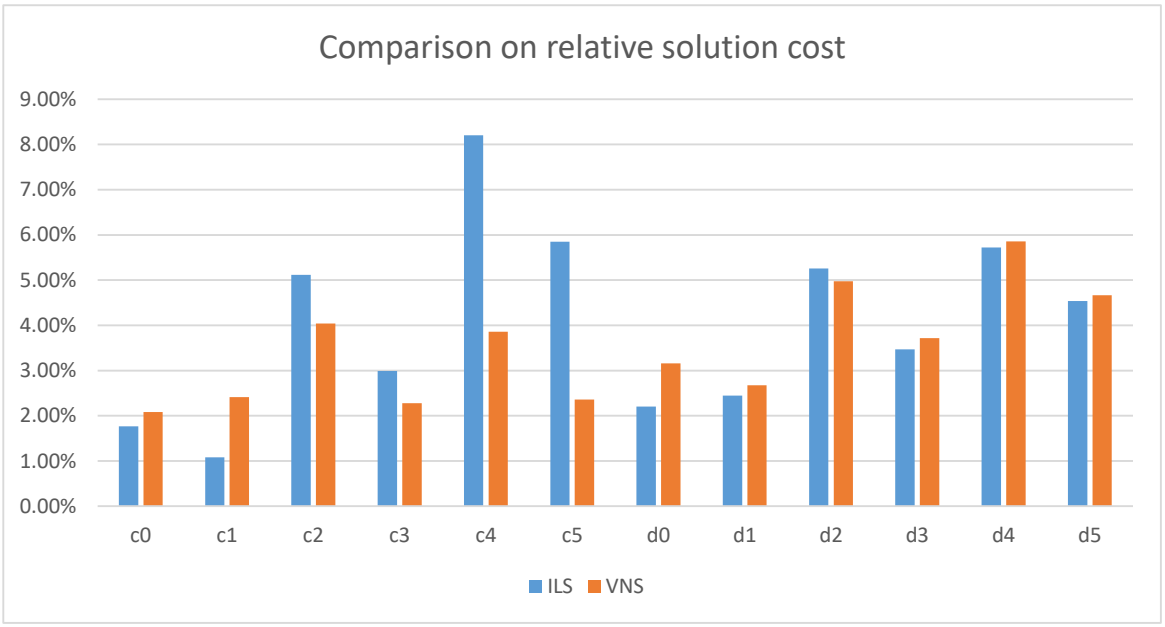
Sono state confrontate Iterated local search (ILS) e Variable Neighborhood search (VNS)
Instanze prese da OR library

	Costi			% sopra lower bound	
Instance	**ILS**	**VNS**	**LB**	**ILS/LB-1**	**VNS/LB-1**
c0	1958	1964	1923.975	1.77%	2.08%
c1	3488	3534	3450.765	1.08%	2.41%
c2	1458	1443	1387.01	5.12%	4.04%
c3	2879	2859	2795.408	2.99%	2.27%
c4	1319	1266	1218.987	8.20%	3.86%
c5	2516	2433	2376.905	5.85%	2.36%
d0	6485	6546	6345.413	2.20%	3.16%
d1	13048	13077	12736.196	2.45%	2.68%
d2	6656	6638	6323.456	5.26%	4.97%
d3	12849	12880	12418.362	3.47%	3.72%
d4	6494	6502	6142.53	5.72%	5.85%
d5	12772	12788	12217.693	4.54%	4.67%
AVG	**5993.50**	**5994.17**	**5778.06**	**4.05%**	**3.51%**
STD DEV	**4576.82**	**4598.31**	**4426.48**	**0.0208**	**0.0122**

T:	**0.787383**
T critico:	**2.073873**

T < T critico quindi i due algoritmi non posso essere ritenuti diversi


Comparison on solution cost
14000
12000
10000
8000
6000
4000
2000
0
c0
c1
c2
c3
c4
c5
d0
d1
d2
d3
d4
d5
ILS
VNS


Comparison on relative solution cost
9.00%
8.00%
7.00%
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
c0
c1
c2
c3
c4
c5
d0
d1
d2
d3
d4
d5
ILS
VNS