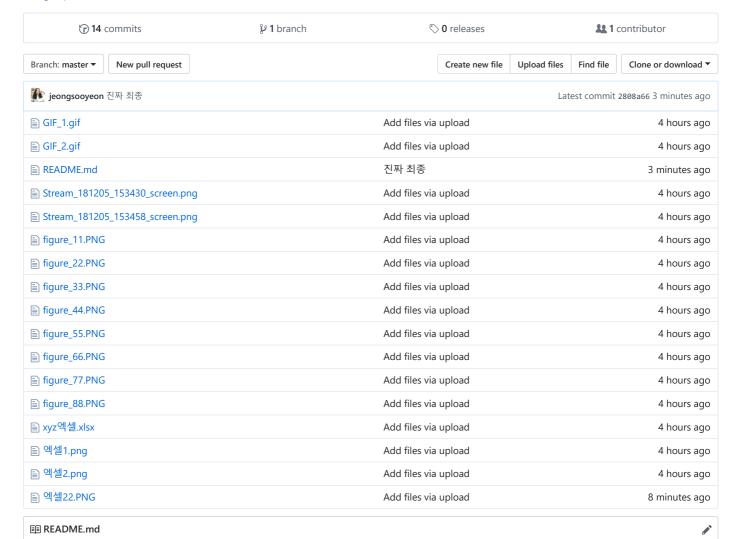
jeongsooyeon / 6DoF-Pose-Visualization

4차산업혁명의이해

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6DoF-Pose-Visualization

1.STEAM VR 을 사용하여 2개의 3차원 그림을 그렸다.

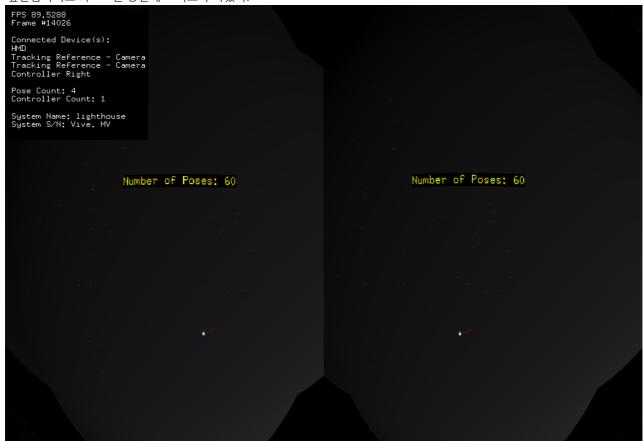
-data1 (점 50개)

'JSY(이름 초성)'을 공간에 그리고자 하였다.



-data2 (점 60개)

'높은음자리표'와 'ㅎ' 을 공간에 그리고자 하였다.

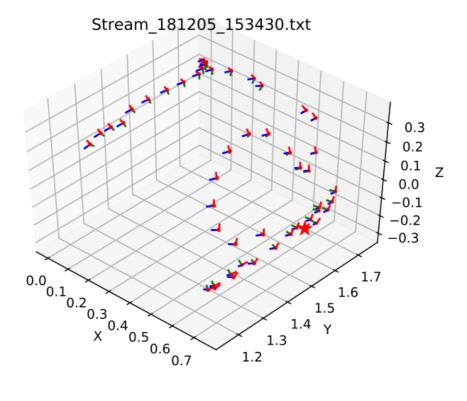


2.python 을 통해 3차원 그림을 시각화하여 구현하였다.

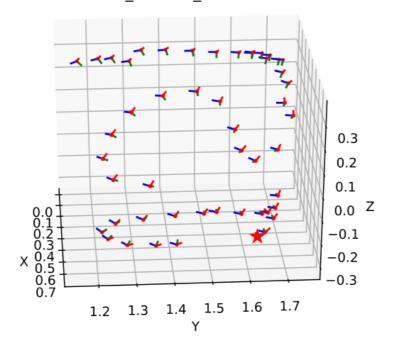
3차원에서의 물체를 설명하기 위해서는 6개의 변수가 필요하다.

즉, 6자유도를 갖는다.

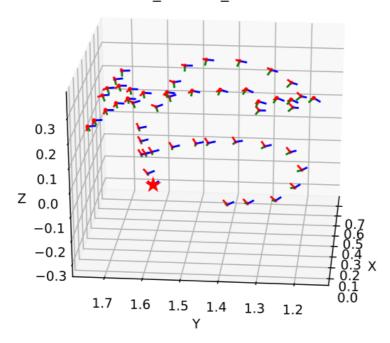
-data1



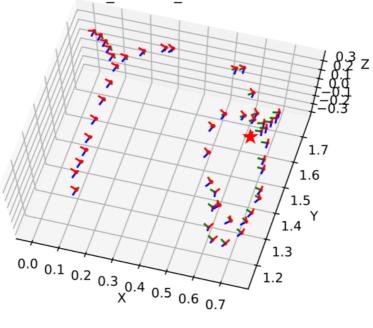
Stream_181205_153430.txt



Stream_181205_153430.txt

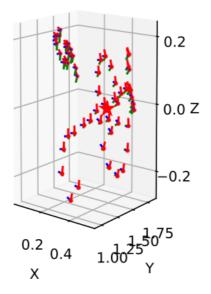


Stream_181205_153430.txt

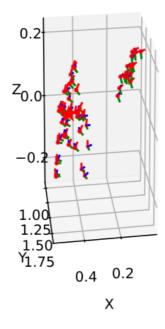


-data2

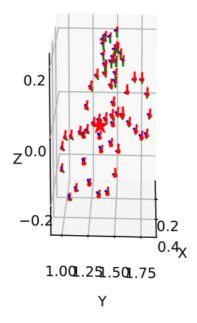
Stream_181205_153458.txt



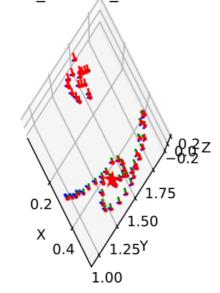
Stream_181205_153458.txt



Stream_181205_153458.txt



Stream_181205_153458.txt



3. python 을 통해 x,y,z축의 값을 받아왔다.

받아온 x,y,z축의 값을 엑셀의 연산기능을 통해, 각 축들이 서로 수직을 이루고 있음을 확인하였다. -data1

x축				У	축			z축					transtlation				
х у	, z		x	У	, 2	z	×	:)	/ :	z	>		y z		곱(x축과 y축) 곱(y축	과 z축) 곱(z축	과 x축)
0.103207	0.708368	0.698258	0	-0.93796	-0.16433	0.305341	0	0.331035	-0.68645	0.647459			1.62999 - 5 0.24979	1	0.00	0.00	0.00
0.082969	0.540068	0.837522	0	-0.97461	-0.13142	0.181296	0	0.207981	-0.8313	0.51545			1.64798 - 1 0.21397	1	0.00	0.00	0.00
0.029624	0.390614	0.920078	0	-0.98867	-0.12406	0.084503	0	0.147155	-0.91216	0.382513	0	0.684109	1.66740 - 8 0.14052	1	0.00	0.00	0.00
-0.09066	0.348245	0.933009	0	-0.98565	-0.16532	-0.03407	0	0.142382	-0.92271	0.358236	0	0.699081	1.66984 - 5 0.08783	1	0.00	0.00	0.00
-0.1499	0.246211	0.957554	0	-0.98021	-0.16363	-0.11138	0	0.129266	-0.9553	0.265869	0	0.704311	1.67538 - 5 0.03193	1	0.00	0.00	0.00
-0.0947	0.37635	0.921625	0	-0.98057	-0.19501	-0.02113	0	0.171773	-0.90572	0.387506	0	0.660519	1.65383 - 5 0.12744	1	0.00	0.00	0.00
-0.10149	0.357682	0.928312	0	-0.98585	-0.16134	-0.04562	0	0.133453	-0.9198	0.368993			1.63733 - 9 0.12406	1	0.00	0.00	0.00
-0.03761	0.377934	0.925068	0	-0.9983	-0.05551	-0.01791	0	0.044578	-0.92417	0.379378	0	0.698651	1.58091 - 7 0.10975	1	0.00	0.00	0.00
-0.01777	0.360536	0.932576	0	-0.99938	0.021919	-0.02752	0	-0.03036	-0.93249	0.359924	0	0.707449	1.51486 - 9 0.09437	1	0.00	0.00	0.00
0.012032	0.384568	0.923018	0	-0.99557	0.0907	-0.02481	0	-0.09326	-0.91863	0.383955	0	0.717717	, 1.48116 -	1	0.00	0.00	0.00
0.070162	0.386078	0.919794	0	-0.96813	0.248579	-0.03049	0	-0.24041	-0.88834	0.391215	0	0.734332	1.40475 - 2 0.09302	1	0.00	0.00	0.00
0.134476	0.433587	0.891021	0	-0.92902	0.36798	-0.03886	0	-0.34473	-0.82255	0.452296	0	0.730674	1.32181 5 -0.107	1	0.00	0.00	0.00
0.189582	0.495393	0.847729	0	-0.87607	0.475196	-0.08177	0	-0.44335	-0.72717	0.524088			1.24936 - 9 0.12583	1	0.00	0.00	0.00
0.412845	0.54628	0.728791	0	-0.84863	0.521278	0.089996	0	-0.33074	-0.65563	0.678796			7 0.18516	1	0.00	0.00	0.00
0.52645	0.594536	0.607764	0	-0.84188	0.464329	0.275021	0	-0.11869	-0.65645	0.744974			1.23111 - 6 0.24309	1	0.00	0.00	0.00
0.526846	0.637369	0.562312	0	-0.84731	0.341589	0.406681	0	0.067126	-0.69071	0.720011	0	0.592689	1.28315 - 9 0.28955	1	0.00	0.00	0.00

SU	SUM → : × ✓ fx = A4*E4+B4*F4+C4*G4																			
4	Α	В	С	D	Е	F	G	н	1	J	K	L	М	N	0	Р	Q	R	S	Т
1		x축				y축				z축				transtlatio	n					
2	x	у	z		x	y	z		х	у	z		x	у	z			곱(x축과 y축)	곱(y축과 z축)	곱(z축과 x축)
3	0.10321	0.70837	0.69826	0	-0.938	-0.1643	0.30534	0	0.33104	-0.6864	0.64746	0	0.62424	1.63	-0.2498	1		0.00	0.00	0.00
4	0.08297	0.54007	0.83752	0	-0.9746	-0.1314	0.1813	0	0.20798	-0.8313	0.51545	0	0.65744	1.64798	-0.214	1		=A4*E4+B4*I	4+C4*G4	0.00
5	0.02962	0.39061	0.92008	0	-0.9887	-0.1241	0.0845	0	0.14716	-0.9122	0.38251	0	0.68411	1.66741	-0.1405	1		0.00	0.00	0.00
6	-0.0907	0.34825	0.93301	0	-0.9857	-0.1653	-0.0341	0	0.14238	-0.9227	0.35824	0	0.69908	1.66985	-0.0878	1		0.00	0.00	0.00
7	-0.1499	0.24621	0.95755	0	-0.9802	-0.1636	-0.1114	0	0.12927	-0.9553	0.26587	0	0.70431	1.67539	-0.0319	1		0.00	0.00	0.00

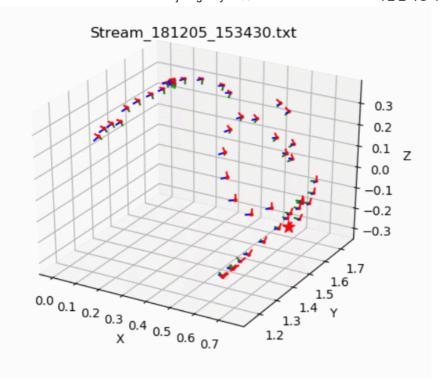
-data2

x축			у축					z축				transtlation						
х у	z		×)	/ z		х	У	. 2	z	:	x	У	z		곱(x축과 y축)	곱(y죽과 z죽)	곱(z축과 x축)
-0.0765	0.501612	0.861704	0	-0.881	0.370681	-0.29399	0	-0.46689	-0.78165	0.413563			51412 1.3555		1	0.00	0.0	0.00
-0.02151	0.562894	0.826249	0	-0.89271	0.361269	-0.26936	0	-0.45012	-0.74339	0.494731					1	0.00	0.0	0.00
0.020093	0.599464	0.80015	0	-0.91689	0.330145	-0.22432	0	-0.39864	-0.72914	0.556275					1	0.00	0.0	0.00
-0.16219	0.514179	0.842208	0	-0.94311	0.170274	-0.28557	0	-0.29024	-0.84061	0.457311					1	0.00	0.0	0.00
-0.27713	0.412939	0.86757	0	-0.91427	0.164333	-0.37027	0	-0.29547	-0.89581	0.331996			74197 ^{1.4794}		1	0.00	0.0	0.00
-0.38099	0.337138	0.860922	0	-0.8703	0.183586	-0.45703	0	-0.31214	-0.92338	0.223467			57325 1.4824		1	0.00	0.0	0.00
-0.46171	0.295213	0.836463	0	-0.81249	0.237637	-0.53235	0	-0.35593	-0.92541	0.130137	0	0.4	38141 1.4583	9 0.12379	1	0.00	0.0	0.00
-0.51154	0.292657	0.807888	0	-0.73745	0.333043	-0.58758	0	-0.44102	-0.89635	0.045457			22073 1.3994	-	1	0.00	0.0	0.00
-0.44574	0.355125	0.821707	0	-0.67903	0.464004	-0.56888	0	-0.5833	-0.81153	0.034316			23537 1.3227		1	0.00	0.0	0.00
-0.33061	0.411942	0.849117	0	-0.65746	0.544949	-0.52037	0	-0.67709	-0.7303	0.090668			34452 1.2652	-	1	0.00	0.0	0.00
-0.17115	0.441295	0.880891	0	-0.66886	0.604445	-0.43276	0	-0.72342	-0.66325	0.191715			45347 1.2254		1	0.00	0.0	0.00
0.039636	0.479313	0.876749	0	-0.70345	0.636541	-0.31619	0	-0.70964	-0.60422	0.362402			74877 1.1983	_	1	0.00	0.0	0.00
0.18944	0.505492	0.841778	0	-0.75034	0.627497	-0.20795	0	-0.63333	-0.59222	0.498161			93765 1.2028		1	0.00	0.0	0.00
0.250678	0.480049	0.840662	0	-0.81831	0.569052	-0.08094	0	-0.51724	-0.66763	0.535477					1	0.00	0.0	0.00
0.231813	0.39891	0.887205	0	-0.89189	0.451251	0.030142	0	-0.38833	-0.79828	0.460389					1	0.00	0.0	0.00
0.172435	0.288318	0.941881	0	-0.94161	0.328992	0.071678	0	-0.28921	-0.89924	0.328212	0	0.5	29487 1.4309	8 - 2 0.16794	1	0.00	0.0	0.00

SU	SUM $\stackrel{\bullet}{}$: \times \checkmark f_x $= A4*E4+B4*F4+C4*G4$																			
	А	В	С	D	Е	F	G	н	1	J	К	L	М	N	0	Р	Q	R	s	Т
1		x축				y축				z축				transtlation						
2	x	у	Z		x	у	Z		x	у	Z		x	y	Z			곱(x축과 y축)	곱(y축과 z축)	곱(z축과 x축)
3	-0.0765	0.50161	0.8617	0	-0.881	0.37068	-0.294	0	-0.4669	-0.7817	0.41356	0	0.45141	1.35556	0.00983	1		0.00	0.00	0.00
4	-0.0215	0.56289	0.82625	0	-0.8927	0.36127	-0.2694	0	-0.4501	-0.7434	0.49473	0	0.46527	1.35084	-0.0211	1		=A4*E4+B4*F	4+C4*G4	0.00
5	0.02009	0.59946	0.80015	0	-0.9169	0.33015	-0.2243	0	-0.3986	-0.7291	0.55628	0	0.47582	1.36648	-0.0581	1		0.00	0.00	0.00
6	-0.1622	0.51418	0.84221	0	-0.9431	0.17027	-0.2856	0	-0.2902	-0.8406	0.45731	0	0.48437	1.46157	-0.0369	1		0.00	0.00	0.00
7	-0.2771	0.41294	0.86757	0	-0.9143	0.16433	-0.3703	0	-0.2955	-0.8958	0.332	0	0.4742	1.47942	0.01902	1		0.00	0.00	0.00

4.움직임 영상.

-data1



-data2

