Item ID	Task ID	Tasks	Chris	Arjun	Tzu Chen	Mara	Avg	SP Person-Hours (1 SP = 1 hrs)*
1	1.1	Set up github repository under which out decoder solution lives	1	1	0.5	0.5	0.75	0.75
2	1.2	Set up virtual environment for decoder solution	2	1	1	2	1.5	1.5
3	1.3	Create Docker image and container for decoder	1	1	1	1	1	1
4	1.4	Run test Docker containing virtualizations	1	1	0.5	0.5	0.75	0.75
5	1.5	Create surface code code in Stim to simulate surface code error dataset	7	4	5	2	4.5	4.5
6	1.6	Generate / simulate Stim datasets	4	4	5	2	3.75	3.75
7	1.7	Implement analog readout wrapper	4	3	3	2	3	3
8	1.8	Connect to the ARC	2	5	4	4	3.75	3.75
9	1.9	Construct embedding scheme (with vectorizing training data and tokenization)	8	6	10	4	7	7
10	1.10	Implement proposed transformer error correction architecture with pipeline	10	6	3	2	5.25	5.25
11	1.11	Train on Stim data on ARC	6	4	5	4	4.75	4.75
12	1.12	Test and evaluate performance on Stim data	2	2	4	2	2.5	2.5
13	1.13	Iteratively adjust parameters and model architecture to improve performance on Stim data	4	4	4	4	4	4
14	1.14	Adjust embedding scheme / pipeline for sycamore dataset	4	2	3	4	3.25	3.25
15	1.15	Train on Sycamore data on ARC	8	4	5	4	5.25	5.25
16	1.16	Test and evaluate performance on Sycamore data	2	3	4	2	2.75	2.75
17	1.17	Iteratively adjust parameters and model architecture to improve performance on Sycamore data	4	3	4	4	3.75	3.75
18	2.1	Create code other quantum codes using Stim	12	8	5	4	7.25	7.25
19	2.2	Generate dataset for other quantum codes	5	6	3	4	4.5	4.5
20	2.3	Adapt readout wrapper to accept other datasets	8	4	3	2	4.25	4.25
21	2.4	Adapt embedding scheme to accept different quantum code data (with unique vectorization schemes)	6	6	5	8	6.25	6.25

22	2.5	Train on Stim data for other quantum codes	6	8	5	2	5.25	5.25
23	2.6	Test and evaluate performance on Stim data for other quantum codes	6	7	5	4	5.5	5.5
24	3.1	Implement MWPM basline error corrction on simulated Stim data	3	4	4	4	3.75	3.75
25	3.2	Evaluate MWPM basline performance on Stim data	2	3	3	2	2.5	2.5
26	3.3	Implement MWPM basline error corrction on Sycamore data	4	4	4	4	4	4
27	3.4	Evaluate MWPM basline performance on Sycamore data	5	3	4	2	3.5	3.5
28	3.5	Build branch from neural net pipeline to send embedded data to Google's transformer model	6	5	4	2	4.25	4.25
29	3.6	Train Google's transformer model on Stim Data	6	5	5	4	5	5
30	3.7	Evaluate Google's transformer performance on Stim data	2	4	3	2	2.75	2.75
31	3.8	Train Google's transformer model on Sycamore Data	6	5	5	4	5	5
32	3.9	Evaluate Google's transformer performance on Sycamore data	3	4	4	2	3.25	3.25
33	3.10	Compare performance with proposed solution using LER(p) evaluation metric	4	4	4	2	3.5	3.5
34	3.11	Generate visualizations and report	6	4	4	1	3.75	3.75
35	4.1	Adapt readout module to listen and accept realtime error data	4	3	2	2	2.75	2.75
36	4.2	Feed into pipeline of transformer model that evaluates error correction output	5	3	4	2	3.5	3.5
37	4.3	Evaluate and verify real-time performance and thoughtput	8	2	4	2	4	4
38	4.4	Construct interfacte to provide option to modify parametrs of error correction network architecture	6	4	5	2	4.25	4.25