3.4.1. Open research data – anonymized video analysis log files for training data generation

1. Description

This report describes design and structure of the produced anonymized video analysis log files that represent the basis for model training data generation from publicly available internet video data.

Each video from the created VideoBase (AI SPEAK internet video database) is processed by the developed VideoFace software solution that is generating different types of output data of interest for further research. One of the main outputs of each video processing (analysis) are corresponding anonymized log files that can be shared along the publicly available video links for processed internet video data. We note that this type of open research data has several advantages over standard publication of custom video datasets, especially in the following aspects:

- Significantly lower memory footprint in comparison to raw video data sharing (enabling easier and more efficient dataset sharing and distribution among members of the project team, as well other interested parties in the research community and general public).
- Saving significant amount of computation time and electrical energy necessary for (re)producing video analysis results. Processing of each original video in the created AI SPEAK internet video database in order to produce useful model training data for later research tasks requires significant amount of memory and hardware resources, which can be a burden point for broader adaptation of the created open research data. Therefore, by providing lightweight video analysis log data it is possible to overcome these challenges and make later on research less costly. E.g. by leveraging on the high level information contained in the log files it is possible to easily generate specific “face” and “mouth” videos of specific speakers from the original AI SPEAK internet video database, providing efficient ways to design task specific AI model training and test video data.
- Solving the problem of publicly sharing video specific data, by providing anonymized log files of the final processing results. In this way it is possible to supply the research community with high quality training data without publishing some video data that would reveal identities of persons present in the large scale AI SPEAK internet video database. In cases when some type of consent would be needed in order to publicly share person specific parts of the original videos, this can be done at the later development stage if some of the log data users or researchers determine that such consent would be needed in some specific application scenario.
- Enabling research re-iteration and adaptation during the model development stage. By providing these anonymized log files with unified and highly structured content, it is possible to easily design different types of post processing of original speaker specific video data, which can be crucial for developing effective audio-video model training datasets. Namely, depending on the requirements imposed by the specific machine learning model, for each recognized identity (valid speaker in the input video) it is possible to define the type of video story or output training video that will contain only certain parts of person’s

face or mouth region (e.g. with specific region of interest, image enhancements, scaling or other adaptations). Thus, the same log file can be re-used multiple times with the same input video in order to generate customized audio-visual information about identified speakers in the video, but every time in a slightly different and model specific form (e.g. by extracting only the mouth region, or by padding the original face bounding box by certain custom value in order to enable application of some specific face data analysis that is of interest to certain machine learning model). In this way it is possible to practice original video data re-use through multiple development iterations, without the need to perform full processing of the input video, or the need to make design compromises with the model architecture and model specific processing in order to use already produced training data. Instead, by leveraging on anonymized logs, user can always make a post processing pipeline and generate training video data with desired characteristics that are suitable for certain model design choice and architecture.

- Besides log files that are containing directly interpretable information like face localization, landmark point coordinates, or gender and age characteristics, log files also contain a machine specific descriptions of each appearance of these persons (valid or recognized identities in each video). These include the corresponding feature vectors of their face images, which have been utilized in the process of person's identity re-identification based on face image throughout the video, i.e. at each appearance of the same person. This type of non-interpretable but highly specific and discriminative information associated with each appearance of the persons in the log files allows to perform different types of explorative analyses in the corresponding feature space and look for certain criteria for automated and unsupervised segmentation of the speakers in the large scale training corpora, as well further enhancement of the existing video analysis tool by designing more robust person re-identification based on multiple views data.

2. Characteristics

There are two types of log files that are produced for each video in AI SPEAK internet video database after processing with the developed VideoFace video analysis tool.

The first type are the log files named as **"*_output.jsonl"**, which contain the main anonymized data about each recognized (valid) person identity in the input video. The second type of log data named as **"*_embeddings.npy"** are somewhat larger in size and contain face specific feature vectors computed for each appearance of the person that has been labeled as valid or recognized identity by the main VideoFace algorithm (consisting of face detection, recognition and tracking modules). In the following we describe some of the internal characteristics of each type of log files. We also provide an accompanying **Appendix A** with parts of the log files for one of the input video files in the created VideoBase database.

This JSON log captures frame-by-frame tracking of validated face detections from a video stream, focusing only on "recognized identities" that passed VideoFace algorithm's quality criteria [1-2].

Each line in the **"*_output.jsonl"** log file in the **Appendix A** contains the following structure:

Table 1 – Summary of the information in "*_output.jsonl" log files generated by the VideoFace algorithm for each video in the AI SPEAK internet video database.

Field	Type	Example	Description
`frame_id`	integer	59	Sequential video frame number
`detections`	array	`[]` or `[ {...} ]`	Validated face detections corresponding to recognized identities. Structured array with information about each person that has fulfilled criteria to be tracked and re-identified by the VideoFace analysis algorithm throughout the analyzed input video. Array can contain information about more than one recognized identity (person) per frame of the input video. In the following are particular types of information that are provided for each detection (person) in the video frame.
→ `bbox`	array	`[882, 144, 1044, 367]`	[x1,y1,x2,y2] face bounding box coordinates [left,top,right,bottom]
→ `person_id`	string	`"person1"`	Validated face identity enumeration, does not represent the total number of persons in the video. The number in the provided unique enumeration represents an internal counter of face detections that have been analyzed by the VideoFace algorithm as possibly valid person identities. However, the number of persons selected by the algorithm as valid, i.e. the number of unique persons in the log is usually smaller. Thus, the reported counter in the enumeration reflects total face candidates encountered, not validated identities.
→ `gender`	string	`"F"`	Estimated biological sex of the person
→ `age`	integer	`29`	Estimated age of the person in years
→ `embedding_id`	integer	`0`	Sequential ID for embedding vector of the person's face image, corresponding vector values computed for each face detection are in the accompanying "*_embeddings.npy" log file.
→ `landmarks`	array	`[[937,228],...]`	5 facial keypoints [x,y] pairs
→ `det_score`	float	`0.906`	Face detection confidence (0.0-1.0)

The provided log file is frame-sequential which makes it perfect for time-series analysis and visualization. Moreover, it provides a structured input for later off-line post processing and generation of model specific video training data. This process of training data generation based on the AI SPEAK internet video database, by combining original input video and provided video analysis log file, can be easily repeated multiple times at relatively low cost during different iterations or stages of the machine learning model development - without the need to repeat computationally heavy analysis of the original input videos, which would require substantial time and computation. Instead, the users of the provided open research data can focus exclusively on model development and easily produce and customize the necessary audio-video inputs based on the supplied pre-computed log files. In addition, privacy preserving nature of the log files structure, Table 1, is facilitating open research data sharing and distribution among the research community.

References

[1] Branko Brkljač, Vladimir Kalušev, Branislav Popović, Milan Sečujski (**2025**). "Transforming faces into video stories—VideoFace2.0", *14th Mediterranean Conference on Embedded Computing (MECO)*, IEEE, Budva, Montenegro, 10-14 June, 2025, pp. 251-254, DOI: 10.1109/MECO66322.2025.11049201; also DOI: 10.48550/arXiv.2505.02060

[2] VideoFace2.0 demonstrations: https://github.com/brkljac/VideoFace2.0

Appendix A

Table A1 – An example of the described "*_output.jsonl" log files.

For each video in the created AI SPEAK internet video database after video analysis performed by designed Video Face algorithm is produced an accompanying anonymized log file with the structure defined in Table 1 and presented below. Each processed video also comes with an additional "*_embeddings.npy" log file, which contains feature vector values of each face image (detection) reported in "*_output.jsonl".

Parts of the log file corresponding to the first 500 frames (20 seconds) of the input video:

...

{"frame_id": 50, "detections": []}

{"frame_id": 51, "detections": []}

{"frame_id": 52, "detections": []}

{"frame_id": 53, "detections": []}

{"frame_id": 54, "detections": []}

{"frame_id": 55, "detections": []}

{"frame_id": 56, "detections": []}

{"frame_id": 57, "detections": []}

{"frame_id": 58, "detections": []}

{"frame_id": 59, "detections": [{"bbox": [882, 144, 1044, 367], "person_id": "**person1**", "gender": "F", "age": 29, "embedding_id": 0, "landmarks": [[937, 228], [1012, 231], [978, 275], [943, 313], [997, 316]], "det_score": 0.906}]}

{"frame_id": 60, "detections": [{"bbox": [882, 144, 1044, 366], "person_id": "**person1**", "gender": "F", "age": 30, "embedding_id": 1, "landmarks": [[937, 228], [1012, 231], [979, 275], [943, 313], [998, 315]], "det_score": 0.906}]}

{"frame_id": 61, "detections": [{"bbox": [882, 145, 1044, 367], "person_id": "**person1**", "gender": "F", "age": 29, "embedding_id": 2, "landmarks": [[937, 228], [1012, 231], [979, 275], [943, 313], [998, 315]], "det_score": 0.905}]}

{"frame_id": 62, "detections": [{"bbox": [882, 146, 1044, 368], "person_id": "**person1**", "gender": "F", "age": 30, "embedding_id": 3, "landmarks": [[937, 228], [1012, 231], [979, 276], [943, 313], [998, 316]], "det_score": 0.905}]}

{"frame_id": 63, "detections": [{"bbox": [882, 146, 1044, 368], "person_id": "**person1**", "gender": "F", "age": 30, "embedding_id": 4, "landmarks": [[937, 228], [1012, 231], [979, 276], [943, 313], [999, 315]], "det_score": 0.903}]}

{"frame_id": 64, "detections": [{"bbox": [882, 146, 1044, 370], "person_id": "**person1**", "gender": "F", "age": 32, "embedding_id": 5, "landmarks": [[937, 228], [1012, 231], [978, 277], [942, 313], [998, 316]], "det_score": 0.904}]}

{"frame_id": 65, "detections": [{"bbox": [882, 146, 1044, 372], "person_id": "**person1**", "gender": "F", "age": 33, "embedding_id": 6, "landmarks": [[937, 228], [1012, 231], [979, 276], [943, 315], [998, 317]], "det_score": 0.901}]}

{"frame_id": 66, "detections": [{"bbox": [882, 145, 1044, 372], "person_id": "**person1**", "gender": "F", "age": 30, "embedding_id": 7, "landmarks": [[937, 228], [1011, 230], [978, 275], [943, 315], [997, 317]], "det_score": 0.901}]}

{"frame_id": 67, "detections": [{"bbox": [882, 145, 1044, 370], "person_id": "**person1**", "gender": "F", "age": 29, "embedding_id": 8, "landmarks": [[937, 227], [1011, 230], [979, 275], [945, 315], [997, 317]], "det_score": 0.902}]}

{"frame_id": 68, "detections": [{"bbox": [882, 145, 1044, 367], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 9, "landmarks": [[938, 227], [1011, 230], [979, 274], [945, 314], [997, 316]], "det_score": 0.904}]}

{"frame_id": 69, "detections": [{"bbox": [883, 145, 1044, 367], "person_id": "**person1**", "gender": "F", "age": 27, "embedding_id": 10, "landmarks": [[938, 227], [1012, 230], [979, 275], [945, 315], [997, 317]], "det_score": 0.904}]}

...

{"frame_id": 98, "detections": [{"bbox": [882, 153, 1044, 376], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 39, "landmarks": [[938, 234], [1012, 237], [979, 281], [945, 323], [995, 325]], "det_score": 0.897}]}

{"frame_id": 99, "detections": [{"bbox": [883, 153, 1044, 378], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 40, "landmarks": [[938, 234], [1012, 237], [979, 281], [945, 323], [996, 326]], "det_score": 0.894}]}

{"frame_id": 100, "detections": [{"bbox": [883, 153, 1044, 379], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 41, "landmarks": [[938, 234], [1012, 236], [979, 280], [944, 323], [994, 325]], "det_score": 0.897}]}

...

{"frame_id": 590, "detections": [{"bbox": [1116, 228, 1344, 516], "person_id": "**person2**", "gender": "F", "age": 27, "embedding_id": 683, "landmarks": [[1208, 339], [1304, 340], [1271, 398], [1213, 449], [1287, 450]], "det_score": 0.854}]}

{"frame_id": 591, "detections": [{"bbox": [1115, 226, 1344, 517], "person_id": "**person2**", "gender": "F", "age": 28, "embedding_id": 684, "landmarks": [[1207, 337], [1303, 338], [1269, 396], [1211, 447], [1287, 448]], "det_score": 0.847}]}

{"frame_id": 592, "detections": [{"bbox": [1115, 227, 1343, 515], "person_id": "**person2**", "gender": "F", "age": 27, "embedding_id": 685, "landmarks": [[1206, 336], [1302, 338], [1268, 397], [1209, 446], [1287, 448]], "det_score": 0.847}]}

{"frame_id": 593, "detections": [{"bbox": [1115, 227, 1342, 516], "person_id": "**person2**", "gender": "F", "age": 29, "embedding_id": 686, "landmarks": [[1206, 336], [1302, 338], [1269, 397], [1208, 445], [1289, 447]], "det_score": 0.848}, {"bbox": [104, 317, 139, 360], "person_id": "**person3**", "gender": "M", "age": 37, "embedding_id": 687, "landmarks": [[109, 331], [123, 332], [112, 341], [111, 350], [121, 350]], "det_score": 0.604}]}

{"frame_id": 594, "detections": [{"bbox": [1115, 228, 1341, 513], "person_id": "**person2**", "gender": "F", "age": 30, "embedding_id": 688, "landmarks": [[1206, 336], [1301, 338], [1269, 397], [1208, 445], [1289, 447]], "det_score": 0.853}, {"bbox": [104, 317, 140, 360], "person_id": "**person3**", "gender": "M", "age": 36, "embedding_id": 689, "landmarks": [[109, 332], [123, 332], [113, 342], [111, 350], [121, 351]], "det_score": 0.618}]}

{"frame_id": 595, "detections": [{"bbox": [1115, 228, 1339, 515], "person_id": "**person2**", "gender": "F", "age": 29, "embedding_id": 690, "landmarks": [[1206, 336], [1300, 338], [1269, 396], [1209, 445], [1289, 446]], "det_score": 0.853}, {"bbox": [105, 317, 140, 360], "person_id": "**person3**", "gender": "M", "age": 39, "embedding_id": 691, "landmarks": [[110, 332], [124, 332], [114, 342], [112, 350], [122, 351]], "det_score": 0.616}]}

...

{"frame_id": 1439, "detections": [{"bbox": [593, 211, 813, 504], "person_id": "**person6**", "gender": "M", "age": 29, "embedding_id": 1622, "landmarks": [[717, 329], [792, 322], [798, 375], [737, 436], [796, 431]], "det_score": 0.852}]}

{"frame_id": 1440, "detections": [{"bbox": [593, 211, 813, 506], "person_id": "**person6**", "gender": "M", "age": 29, "embedding_id": 1623, "landmarks": [[718, 328], [793, 322], [799, 375], [737, 435], [796, 431]], "det_score": 0.849}]}

{"frame_id": 1441, "detections": [{"bbox": [593, 211, 814, 509], "person_id": "**person6**", "gender": "M", "age": 27, "embedding_id": 1624, "landmarks": [[718, 328], [792, 322], [799, 376], [736, 436], [795, 432]], "det_score": 0.846}]}

{"frame_id": 1442, "detections": [{"bbox": [592, 211, 813, 509], "person_id": "**person6**", "gender": "M", "age": 27, "embedding_id": 1625, "landmarks": [[716, 329], [792, 322], [798, 377], [734, 436], [795, 432]], "det_score": 0.844}]}

{"frame_id": 1443, "detections": [{"bbox": [592, 210, 813, 511], "person_id": "**person6**", "gender": "M", "age": 28, "embedding_id": 1626, "landmarks": [[715, 331], [792, 324], [797, 378], [732, 436], [795, 431]], "det_score": 0.839}]}

{"frame_id": 1444, "detections": [{"bbox": [592, 210, 812, 511], "person_id": "**person6**", "gender": "M", "age": 29, "embedding_id": 1627, "landmarks": [[713, 331], [790, 324], [796, 377], [734, 437], [796, 432]], "det_score": 0.837}]}

...

{"frame_id": 1547, "detections": [{"bbox": [1428, 323, 1553, 490], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 1634, "landmarks": [[1463, 389], [1522, 383], [1498, 417], [1475, 451], [1520, 446]], "det_score": 0.875}]}

{"frame_id": 1548, "detections": [{"bbox": [1428, 324, 1553, 490], "person_id": "**person1**", "gender": "F", "age": 27, "embedding_id": 1635, "landmarks": [[1463, 388], [1523, 383], [1499, 417], [1475, 451], [1521, 446]], "det_score": 0.879}]}

{"frame_id": 1549, "detections": [{"bbox": [1429, 324, 1553, 491], "person_id": "**person1**", "gender": "F", "age": 28, "embedding_id": 1636, "landmarks": [[1464, 389], [1523, 383], [1499, 417], [1476, 452], [1521, 447]], "det_score": 0.877}]}

{"frame_id": 1550, "detections": [{"bbox": [1429, 324, 1554, 491], "person_id": "**person1**", "gender": "F", "age": 29, "embedding_id": 1637, "landmarks": [[1464, 389], [1524, 383], [1499, 417], [1476, 452], [1521, 447]], "det_score": 0.877}]}

{"frame_id": 1551, "detections": [{"bbox": [1429, 323, 1554, 491], "person_id": "**person1**", "gender": "F", "age": 29, "embedding_id": 1638, "landmarks": [[1464, 389], [1524, 384], [1499, 418], [1476, 452], [1522, 448]], "det_score": 0.873}]}

...

detections": [{"bbox": [1000, 151, 1306, 541], "person_id": "**person64**", "gender": "M", "age": 70, "embedding_id": 2664, "landmarks": [[1092, 301], [1215, 330], [1139, 395], [1078, 440], [1176, 464]], "det_score": 0.88}]}

{"frame_id": 3587, "detections": [{"bbox": [1000, 151, 1306, 542], "person_id": "**person64**", "gender": "M", "age": 69, "embedding_id": 2665, "landmarks": [[1094, 302], [1218, 329], [1143, 398], [1081, 441], [1182, 464]], "det_score": 0.878}]}

{"frame_id": 3588, "detections": [{"bbox": [1001, 152, 1306, 542], "person_id": "**person64**", "gender": "M", "age": 70, "embedding_id": 2666, "landmarks": [[1097, 303], [1222, 329], [1150, 399], [1085, 443], [1190, 464]], "det_score": 0.869}]}

{"frame_id": 3589, "detections": [{"bbox": [1000, 152, 1306, 541], "person_id": "**person64**", "gender": "M", "age": 66, "embedding_id": 2667, "landmarks": [[1097, 303], [1221, 329], [1149, 396], [1086, 442], [1186, 464]], "det_score": 0.87}]}

{"frame_id": 3590, "detections": [{"bbox": [1000, 153, 1307, 541], "person_id": "**person64**", "gender": "M", "age": 64, "embedding_id": 2668, "landmarks": [[1093, 302], [1216, 330], [1141, 393], [1081, 440], [1177, 464]], "det_score": 0.875}]}

{"frame_id": 3591, "detections": [{"bbox": [1000, 153, 1305, 541], "person_id": "**person64**", "gender": "M", "age": 65, "embedding_id": 2669, "landmarks": [[1090, 303], [1213, 330], [1137, 392], [1078, 439], [1176, 463]], "det_score": 0.877}]}

{"frame_id": 3592, "detections": []}

{"frame_id": 3593, "detections": []}

{"frame_id": 3594, "detections": []}

...

{"frame_id": 3898, "detections": []}

{"frame_id": 3899, "detections": []}

{"frame_id": 3900, "detections": [{"bbox": [881, 131, 1043, 353], "person_id": "**person1**", "gender": "F", "age": 30, "embedding_id": 2670, "landmarks": [[933, 216], [1010, 219], [975, 261], [940, 300], [997, 302]], "det_score": 0.914}]}

{"frame_id": 3901, "detections": [{"bbox": [881, 132, 1043, 353], "person_id": "**person1**", "gender": "F", "age": 31, "embedding_id": 2671, "landmarks": [[933, 216], [1010, 219], [974, 261], [939, 300], [997, 302]], "det_score": 0.913}]}

Table A2 – An example of the feature vector in "*_embeddings.npy" computed for the "person1" from "*_output.jsonl" presented in Table A1. Computed values correspond to anonymized characterization of person's face in frame 3901 of the original input video.

{**"frame_id": 3901**, "detections": [{"bbox": [881, 132, 1043, 353], "person_id": "person1", "gender": "F", "age": 31, "**embedding_id": 2671**, "landmarks": [[933, 216], [1010, 219], [974, 261], [939, 300], [997, 302]], "det_score": 0.913}]}

Computed "**embedding_id": 2671** vector with 512 machine interpretable floating point face features:

[-1.6348e+00 -1.4600e-01 -2.2148e+00 2.2969e+00 -2.3547e-01 2.7832e-01 -1.4434e+00 -1.8408e-01 1.1270e+00
1.1348e+00 -4.8022e-01 -5.0244e-01 -1.1533e+00 4.4873e-01 -6.1621e-01 1.7295e+00 -6.5283e-01 9.1406e-01
4.7168e-01 -3.9453e-01 4.2480e-01 1.2441e+00 4.6802e-01 -8.1934e-01 -9.9414e-01 6.5869e-01 -1.4434e+00
5.0977e-01 -2.5684e+00 1.1682e-01 8.6084e-01 -3.7524e-01 -3.0410e+00 2.4158e-01 -3.0908e-01 4.9878e-01
-2.1582e+00 8.2666e-01 -9.9072e-01 -8.6230e-01 -9.8828e-01 -7.0312e-01 1.4121e+00 -1.6492e-01 1.2676e+00
-1.2524e-01 3.7933e-02 -3.8696e-01 -5.2490e-01 -2.9512e+00 -7.7515e-02 -1.4771e-01 -6.3867e-01 -1.0039e+00
-1.0234e+00 -1.2617e+00 1.5613e-01 -4.6069e-01 -1.6025e+00 3.3350e-01 6.1816e-01 1.1758e+00 4.6143e-
01 -2.3401e-01 1.1582e+00 6.7773e-01 1.3916e+00 8.9893e-01 8.6377e-01 -2.2148e+00 1.5918e+00 -8.2666e-
01 -1.6663e-01 -3.2257e-02 1.8555e-01 -5.9033e-01 -4.9927e-02 4.9219e-01 8.9111e-01 2.0176e+00 5.0244e-
01 -1.1719e+00 2.7759e-01 -2.2986e-01 -1.3242e+00 -1.1133e+00 6.6406e-01 -1.7539e+00 2.8711e-01 5.1709e-
01 1.1074e+00 3.9453e-01 1.6758e+00 1.6787e+00 -7.8955e-01 -5.5713e-01 -1.5938e+00 6.5430e-01 5.6836e-
01 -1.5010e+00 1.3506e+00 -2.1855e+00 1.2119e+00 2.0007e-01 -5.4053e-01 -2.7598e+00 1.5273e+00 1.0559e-
01 9.6619e-02 5.5859e-01 1.6934e+00 -3.1452e-03 -9.0039e-01 -2.3877e-01 9.5947e-02 4.3481e-01 4.7437e-
01   3.4131e-01 -1.8838e+00 -6.5625e-01 -1.8018e-01   8.3847e-03   7.4805e-01   3.4058e-01   1.2344e+00
1.4199e+00 7.1680e-01 -6.2158e-01 8.4521e-01 -8.7500e-01 -2.1016e+00 -1.0117e+00 7.0215e-01 1.6270e+00
1.1182e+00 -1.0674e+00 -2.6621e+00 -2.0234e+00 -4.0796e-01 1.5762e+00 1.7109e+00 1.0244e+00 5.3809e-01
-3.7402e-01 6.3721e-01 8.3838e-01 -1.3535e+00 -2.9492e+00 -1.0754e-01 6.5820e-01 3.1543e-01 1.0117e+00
-3.2983e-01 -1.3438e+00 3.5132e-01 -9.7168e-01 2.8164e+00 1.8970e-01 -2.6880e-01 1.0918e+00 -6.3477e-
01 8.9966e-02 1.8135e+00 -4.1919e-01 1.3066e+00 -1.5078e+00 -8.5156e-01 3.1909e-01 6.7969e-01 -9.3848e-
01 -1.3398e+00 -2.1692e-01 -9.9121e-01 6.0693e-01 3.7915e-01 1.0264e+00 -1.5312e+00 2.1172e+00 9.6191e-
01 -2.8809e-01 1.1738e+00 1.4629e+00 2.1362e-01 -2.9175e-01 -4.2676e-01 1.3232e+00 8.1152e-01 -1.9434e-
01 -1.7656e+00 -5.7617e-01 6.6113e-01 3.6792e-01 -2.2754e+00 -3.9575e-01 -3.2051e+00 4.6118e-01 -4.8730e-
01 1.2988e+00 -1.3564e+00 -8.4534e-02 -4.6997e-01 -7.9883e-01 -7.0898e-01 -1.2080e+00 4.6021e-01 -1.6235e-
01 -3.6426e-01 -9.1797e-01 -8.0322e-01   6.6504e-01 -6.3281e-01   3.8257e-01   8.8818e-01   1.9312e-01
2.3281e+00 -6.0303e-01 5.0146e-01 3.6816e-01 1.7151e-01 -4.3433e-01 1.9053e+00 2.2188e+00 1.1348e+00
-4.9268e-01 1.2432e+00 -5.0000e-01 1.1172e+00 -4.2480e-01 -1.3828e+00 -1.0596e+00 1.5791e+00 -1.2686e+00
7.9346e-01 7.9395e-01 -5.5615e-01 4.2651e-01 -1.4482e+00 -1.5762e+00 -1.8738e-02 1.1621e+00 4.0698e-01
-4.4800e-01 -1.1523e+00 8.6377e-01 2.9761e-01 5.6610e-02 2.5098e-01 -2.7771e-02 5.7275e-01 8.5107e-
01 -4.4580e-01 -1.2891e-01 -4.1772e-01 -1.2051e+00 2.2205e-01 -1.7988e+00 3.8086e-01 -5.9717e-01 2.4609e-
01 7.1484e-01 1.1299e+00 -1.0382e-01 -3.6621e-01 5.1221e-01 -2.4078e-02 1.8738e-01 5.5615e-01 -7.7637e-
01 -9.4385e-01   1.6736e-01   4.5630e-01 -1.6223e-01 -4.0918e-01   6.1914e-01 -1.2634e-01   6.3623e-01 -
1.0371e+00 3.6499e-02 1.0518e+00 -1.4062e+00 1.5010e+00 7.4902e-01 -1.6240e+00 -4.7363e-01 -7.6221e-01
1.7715e+00 4.5361e-01 -1.6611e+00 6.8408e-01 -4.3335e-02 3.4570e-01 -6.4209e-01 -4.9463e-01 6.8481e-02
6.0352e-01 -1.2324e+00 -1.1309e+00 -8.0078e-01 9.7461e-01 -8.9539e-02 1.5791e+00 -2.8965e+00 -9.8938e-02
4.6069e-01 2.2632e-01 2.7930e+00 3.6108e-01 -1.6045e+00 -7.4805e-01 9.6387e-01 3.7256e-01 1.4385e+00
-6.0986e-01 -2.4280e-01 3.6285e-02 -8.9722e-02 -4.2554e-01 -1.0114e-01 6.1914e-01 -1.8542e-01 -3.0737e-
01 -6.5430e-01 -9.3896e-01 2.3083e-01 -1.0557e+00 -5.7520e-01 -5.1611e-01 1.2998e+00 8.7549e-01 -6.9238e-
01 -1.1055e+00 -5.5469e-01 1.3464e-01 -4.5630e-01 -1.4434e+00 -7.0435e-02 6.7997e-04 -1.5029e+00 6.5527e-
01 -1.1934e+00 6.5125e-02 -1.8477e+00 -6.5771e-01 -2.4316e-01 1.6982e+00 -9.6924e-01 -2.1035e+00 4.4019e-
01   2.4353e-02   7.5293e-01 -3.6768e-01 -1.5498e+00 -3.7939e-01 -2.2644e-01   4.1260e-01   2.9028e-01
1.1895e+00 -6.6211e-01 -1.1846e+00 1.6650e+00 2.0938e+00 -3.2666e-01 2.1216e-01 7.9248e-01 -1.0859e+00
-1.4111e+00 1.9404e+00 -1.1016e+00 -1.2617e+00 1.5156e+00 -1.0840e+00 -3.6255e-01 -5.6299e-01 8.7524e-
02 -1.2334e+00   2.0032e-01   1.5149e-01 -7.1191e-01   6.0010e-01   7.8125e-01   3.5126e-02   7.7686e-01
1.7744e+00 2.9102e-01 4.5459e-01 -9.5703e-01 -1.1973e+00 1.4678e+00 -2.2754e-01 1.2812e+00 -1.4004e+00
1.9346e+00 6.0645e-01 -1.1188e-01 -3.3325e-01 -1.2070e+00 -1.5957e+00 -1.0459e+00 6.7920e-01 7.9102e-01
5.2295e-01 3.5815e-01 -3.2178e-01 -3.6011e-01 9.1309e-01 -7.2461e-01 7.6758e-01 2.2363e+00 -4.7046e-01
4.1162e-01 -1.7456e-01 -8.2617e-01 -1.5518e+00 5.1611e-01 8.0566e-01 1.1006e+00 -2.9761e-01 -2.9766e+00
9.3848e-01 9.2822e-01 -4.8401e-02 -1.5857e-01 2.7344e-01 -3.5181e-01 -1.1055e+00 2.4199e+00 6.1768e-01
7.2217e-01 -1.3708e-01 7.3193e-01 -5.3223e-01 -3.5645e-01 -5.5664e-01 6.3428e-01 -1.1172e+00 -1.3025e-01
6.6260e-01 -8.9258e-01 -1.1631e+00 -1.0449e+00 4.0454e-01 7.6855e-01 -6.1865e-01 1.2764e+00 2.8223e-01
-4.2163e-01 -5.4150e-01 8.6914e-01 1.0811e+00 4.4946e-01 -4.5459e-01 -3.9990e-01 4.7583e-01 -2.5293e-
01   1.7676e+00   5.7471e-01 -8.8037e-01 -7.3291e-01   2.7197e-01   1.5176e+00   8.0322e-01   6.4355e-01 -
1.6035e+00 5.5029e-01 -1.5654e+00 9.0332e-01 -2.7441e-01 3.1055e-01 -2.2363e+00 -1.3203e+00 -5.0000e-01
2.2424e-01 -1.4141e+00 -1.3350e+00 9.1400e-03 3.8062e-01 -1.7822e-01 9.7754e-01 3.0859e-01 4.8096e-01
8.8086e-01 7.1094e-01 -1.9766e+00 8.0078e-01 1.8823e-01 4.6143e-02 -7.4268e-01 1.7314e+00 -1.9639e+00
-2.8735e-01 -1.0811e+00 5.8350e-01 2.7588e-01 -5.6006e-01 1.2266e+00 -2.9272e-01 -6.4600e-01 1.3232e+00
4.4019e-01 9.4775e-01 2.4668e+00 -1.0732e+00 -1.1973e+00 1.4492e+00 -6.8701e-01 2.3730e-01 1.3818e+00
1.5889e+00 -9.4678e-01 -7.5098e-01 1.5918e+00 5.2246e-01]