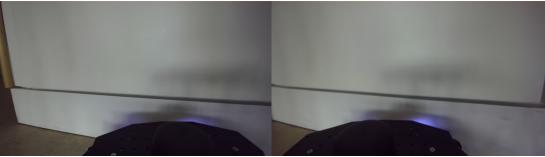


Table 1: Models that have been deployed and for which failures have been collected. Each row represents an trained model with a specific architecture and set of training parameters.

	Architecture	Data Aug. & Balancing	Inputs	Dataset Size	Normalization	Epochs	Loss Function
M1	DAVE2	✓	1	11K	×	100	MSE
M2	DAVE2	✓	1	11K	×	100	L1
M3	DAVE2	✗	1	11K	ImageNet Norm	100	MSE
M4	DAVE2	✗	1	11K	BatchNorm	100	MSE
M5	DAVE2	✓	1	11K	✗	convergence	L1
M6	MiniTransformer	✓	1	11K	✗	100	MSE

Table 2: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization				Significant Trace Values
		Distance	Failure Type	Notable Characteristics		
1	M1	< 1/2 lap	Crash to obstacles	Starts from stable point 1. The robot performs left turn from the center of the path towards the wooden wall of the hallway. The robot then attempts to make a right turn to avoid the wall, but the correction comes too late.		angular_speed_z:{-0.237353384, -0.192075387, -0.786723077, -0.586144865, -0.522732854, -0.457421124, -0.581465662}
2	M1	<1 lap	Crash to obstacles	Starts from stable point 1. Crashes onto the glass wall of the conference room (left side)		angular_speed_z:{0.589778557, 0.97018379, 1.236114621, 0.046197832, -0.192197487, 0.998846054}
3	M1	<1 lap	Wrong path & crash	Starts from stable point 2. The robot twirls in the hallway after initially steering away with a left turn to avoid colliding with the wall. Eventually the robot crashes onto the glass wall of the conference room (left side)		angular_speed_z:{-0.181797162, 0.04306177, -0.243719146, 0.909314275, -0.019864216, -0.133465558}
4	M1	3/4 lap	Wrong path & crash	Starts from stable point 2. The robot performs left turn from the center of the path and directs itself to the wrong path heading to the elevator. The robot eventually crashes onto the corner of the wall.		angular_speed_z:{-0.42008999, 0.730430663, -0.13285847, 0.13285847, -0.712219715, -0.654026151}

5	M1	<1 lap	Crash to obstacles	Starts from stable point 3. Crashes onto the glass wall of the conference room (left side)	angular_speed_z:{0.6774141043424606, 0.29949677735567093, 0.12250994145870209, -0.184344009, -0.080569968, -0.036568187, 0.11153104528784752, -0.180635795, -0.165302634, -0.207284957, -0.041703619, -0.232473478, 0.37048924, -0.299781024, -0.318579018}	
6	M1	3/4 lap	Wrong path & crash	Starting from stable point 3, the robot initiates a left turn in response to the wooden hallway wall ahead but continued turning left, veering off course and heading in the reverse direction. It eventually manages to turn around and return to the correct path near the previous corner. The robot ultimately collides with the wall of the kitchen lounge.	angular_speed_z:{-0.113903947, -0.378477395, -0.365711868, -0.159630969, 1.322974563, 2.00579989, 1.531323552, 1.584070265, 0.688783765, 1.055322737, 1.10551554}	
7	M1	<1 lap	Wrong path & crash	Starts from stable point 4. The robot makes a right turn at the corner when it encounters the blue-tiled wall, steering itself onto the wrong path. It eventually collides with a table leg.	angular_speed_z:{0.587493852, 0.129622422, -0.046677586, -0.374339253, -0.628374696, -0.474604875, -0.446006387, -0.011029735, 0.163459774, -0.196762308}	
8	M1	<1 lap	Wrong path & crash	Starts from stable point 4. The robot executes a turnabout in the hallway near the aisle leading to the elevator. The robot deviates from its path and frequently over-corrects, resulting in a zigzagging motion, and eventually crashes onto the wooden wall of the hallway (left side) after a left turn.	angular_speed_z:{2.375847816, 1.040704697, -0.337195665, -0.432127059, -0.22254692, -0.685242057, 0.104688529, 0.88930285, 0.028559754, -0.793562114, -0.571596324, -0.764114916, -0.632970989, -0.81813103}	
9	M1	<1 lap	Crash to obstacles	Starts from stable point 5. The robot performs a left turn to the direction of the entrance of the elevator aisle and continues to steer left without entering the aisle, but ends up hitting the corner of the wall at the entrance.	angular_speed_z:{1.974759758, 3.000718832, 3.000718832, -0.932445526, -0.932445526, -0.43249917, -0.33595252, -0.10882239, 0.435534194, 0.435534194, 1.541379333, 2.257593334}	

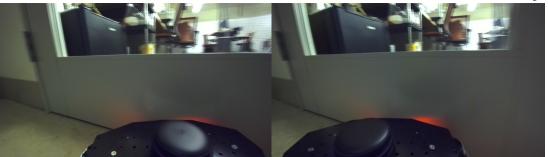
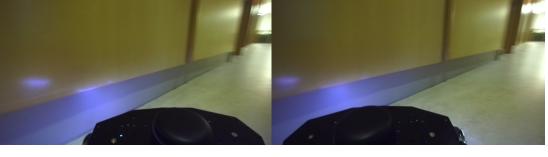
10	M1	<1 lap	Twirl & Crash to obstacles	Starts from stable point 5. The robot steers left from the center of the path and continues turning, causing it to twirl. It eventually gets back on track and moves forward. After some distance, the robot makes a left turn toward the entrance of the elevator aisle but continues steering left without entering the aisle, ultimately hitting the corner of the wall at the entrance.	angular_speed_z:{2.578065634, 1.522958636, 2.219900608, -0.653370976, 1.444596827, 1.522958636, 2.219900608, -0.545867443, 1.444596827, 2.080596864, -0.560699582, -0.442490399, 2.167459846}	
11	M1	<1 lap	Crash to obstacles	Starts from stable point 6. The robot turns around in front of student backpack but crashes onto the chair legs at the kitchen lounge. The placement of the chairs is not fixed, so the position of the chairs can change from the training set and from every deployment runs	angular_speed_z:{1.835323334, 0.437564537, 0.986239135, 0.460956842, 0.049057446, -0.203402638, 1.045236826, 1.10669589, 0.668235272, 1.358852148}	
12	M1	<1 lap	Crash to obstacles	Starts from stable point 6. Crashes onto the table wheels at the kitchen lounge. The placement of the tables is not fixed, so the position of the tables can change from the training set and from every deployment runs	angular_speed_z:{-0.159691498, 0.160296977, 0.008269414, 0.276495226, -0.042347595, 0.574621797, -0.232969224, -0.044161111, -0.099933259}	

Table 3: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization			
		Distance	Failure Type	Notable Characteristics	Significant Trace Values
1	M2	<1 lap	Constant Steering Output	The model produces a constant angular_speed_z output	angular_speed_z always equals 3.520420887070941e-05

Table 4: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization				
		Distance	Failure Type	Notable Characteristics	Significant Trace Values	
1	M3	<1 lap	Crash to obstacles	Starts from stable point 1. The robot performs a sharp left turn from the center of the path and crashes onto the left side of the hallway wooden wall.	angular_speed_z:{-0.122300379, 2.212948501, -0.652125061, 0.739412248, 2.212948501, -0.739412248, -0.862496138, -0.652125061, -0.739412248, -1.15740633}	

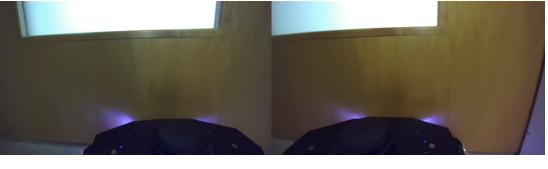
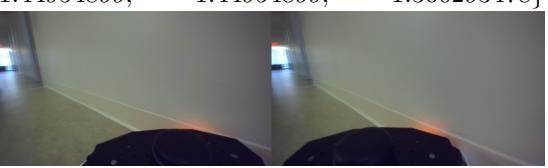
2	M3	<1 lap	Crash to obstacles	Starts from stable point 1. The robot makes a sharp left turn from the center of the path and tries to execute a right turn when the wooden wall on the left side hallway is close. However, it reacts too late and still crashes into the wall.	angular_speed_z:{-0.575972259, -0.744597375, -0.795975745, -0.740892828, 0.313312836, -0.915080011, -0.912718117, -1.097150803}	
3	M3	<1 lap	Twirl & Crash	Starts from stable point 2. The robot makes a sharp left turn from the center of the path and successfully executes a right turn, moving away from the glassy door with a metal frame on the left side of the hallway. After a short distance, it begins to twirl for about five rounds in the center of the hallway. It then moves forward briefly before making another sharp left turn from the center of the path and crashing into the left-side wall.	angular_speed_z:{-1.132802844, -1.143349886, -1.143349886, -1.113196731, -0.995750129, -0.995750129, -0.88667953, -0.88667953, -0.769093573}	
4	M3	<1 lap	Twirl & Crash	Starts from stable point 2. The robot makes a sharp left turn from the center of the path and attempts a right turn to move away from the glassy door with a metal frame on the left side of the hallway. However, it soon starts turning sharply left again after the right turn, causing it to twirl in front of the door. Eventually, it crashes into the left-side wall during one of the left turns in the twirl.	angular_speed_z:{-0.360249877, 0.647906095, 0.910706878, 0.787072957, 0.956016988, 1.234770924}	
5	M3	<1 lap	Twirl & Crash	Starts from stable point 3. The robot makes a left turn from the center of the path and successfully performs a right turn to move away from the left side wooden hallway wall. However, it soon starts turning sharply left again after the right turn, causing it to twirl in center of the hallway. After a left turn, the robot crashes into the wall regardless the late attempt to execute a right turn when the wooden wall on the left side hallway is close.	angular_speed_z:{1.000253767, 2.207070351, 1.014859468, 1.81516993, 1.571308136, 1.649547637, -0.694380581, -0.811773419, -1.05962944, -1.241372824, -1.075560331}	

6	M3	<1 lap	Crash to obstacles	Starts from stable point 3. The robot performs a sharp left turn from the center of the path and crashes onto the left side of the hallway wooden wall.	angular_speed_z:{2.214259565, 1.698541939, 2.101010263, 0.759216845, 0.195703849, -0.872636735, 1.362513721, -0.661450326, 0.442936465, -0.755064189, -0.886302352, 2.985446155, -0.7287907, -0.422392398, -0.841157377, -1.003563166}	
7	M3	<1 lap	Twirl & Crash	Starts from stable point 4. The robot makes a sharp left turn from the center of the path, causing it to twirl in approximately 4 rounds before the robot crashes into the left-side glass wall during one of the left turns in the twirl.	angular_speed_z:{-0.637992561, 0.791246295, -0.072614647, 1.639117062, 1.085612744, -0.315429866, 2.188472271, -0.225244612, -0.739274085, 2.399511158, 2.294205844}	
8	M3	<1 lap	Twirl & Crash	Starts from stable point 4. The robot makes a sharp left turn from the center of the path, causing it to twirl in approximately 3 rounds before proceeding forward in the reverse direction. After a short distance, it makes another sharp left turn and continues steering left, performing a twirl to avoid colliding with the glass wall. However, during the second twirl, it still crashes into the wall.	angular_speed_z:{-0.561292648, 1.377507538, 1.166043609, -0.360267311, 0.656881988, 1.124812692, -0.990935385, 0.492059559, -0.025091177, 1.956723869, -0.966236413, -0.485176384}	
9	M3	<1 lap	Crash to obstacles	Starts from stable point 5. The robot makes a left turn from the center of the path, followed by a right turn to correct its course. However, it immediately executes another sharp left turn, causing it to crash into the glass door with a metal frame.	angular_speed_z:{0.757484078, -0.560448825, 1.191694379, 1.0015769, 0.317810699, -0.28184846, -0.397735536, 0.906015605, -0.135100842, 0.429585993, -0.221423417}	
10	M3	<1 lap	ZigZag & Crash	Starts from stable point 5. The robot makes a left turn from the center of the path, followed by a right turn to correct its course, resulting in a series of zigzag movements. Eventually, the robot crashes into the wooden wall on the left side of the hallway after making a sharp left turn.	angular_speed_z:{2.299242675, 3.398075223, -1.237962246, 0.900537908, 0.464477956, 2.060275197, 3.076042414, 2.367083967, -1.388229489, 1.227757752, 0.363003083, 2.191821277, -1.045429826, -0.752845705, 0.154066455, 2.461481631}	

11	M3	<1 lap	Twirl & Crash	Starts from stable point 6. The robot makes a sharp left turn from the center of the path, causing it to twirl in approximately 3 rounds before proceeding forward in the reverse direction. After a short distance, it makes another sharp left turn crashes into the wall.	angular_speed_z:{-0.148175061, 0.400746971, -0.067769624, -0.34899509, 0.488623649, 0.455737799, 0.944607764, 0.131282665, 1.211580902, 0.690620363, 1.457148045, 1.443505436}
12	M3	<1 lap	Twirl & Crash	Starts from stable point 6. The robot makes a sharp left turn from the center of the path, causing it to twirl multiple times before moving forward in the reverse direction. After a short distance, it repeats the twirling behavior. This pattern continues a few times until, after another sharp left turn and continued left steering, the robot twirls in an attempt to avoid the wall but ultimately still crashes into it.	angular_speed_z:{1.95907563, 1.857773066, 0.2024699, 0.100248367, 3.07348752, 2.485890448, 1.607240617, 2.5974859, 2.778137863, 3.369226456}

Table 5: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization			Significant Trace Values
		Distance	Failure Type	Notable Characteristics	
1	M4	<1 lap	Crash to left wall; turning	Starts from stable point 1. The robot makes a sharp left turn to correct its position after a previous right turn but crashes into the left side of the hallway wall when it attempts to steer right again with the wall very close.	angular_speed_z:{-0.751716554, -0.751716554, -0.751716554, -0.680034101, -0.680034101, 0.145155005, 0.145155005, 0.924210548, 0.924210548, 0.185124077, 0.185124077, 0.185124077, -0.271342874, -0.271342874}
2	M4	<1 lap	Crash to left wall corner; straight	Starts from stable point 1. The robot makes a sharp left turn to correct its position after a previous slight right turn and crashes into the corner of the left side hallway wall.	angular_speed_z:{0.025411712, 0.025411712, 0.025411712, -0.286374211, -0.286374211, -0.454366118, -0.454366118, -0.078652486, -0.038621876, -0.038621876, -0.038621876, -0.188553542, -0.188553542}

3	M4	<1 lap	Crash to right wall; straight	Starts from stable point 2. The robot makes a sharp left turn at start from the center of the path and successfully executes a right turn, moving away from the glassy door with a metal frame on the left side of the hallway. However, the robot continues steering to right, moves towards the right side of the hallway, and ends up hitting onto the wooden door on the right side wall.	angular_speed_z:{-0.13689521, 0.13689521, -0.13689521, 0.15185266, 0.15185266, 1.251958966, 1.251958966, 1.251958966, 1.12803492, 1.12803492, 0.706308246, 0.706308246}	
4	M4	<1 lap	Crash to wall in robot's left side in reverse; turning	Starts from stable point 2. The robot makes a sharp left turn during its zigzag behavior and turns around as it steers left and proceeds in the reverse direction. After traveling a short distance, the robot attempts to steer left but crashes into the white-painted wall on its left side, despite its late efforts to turn further left to avoid the collision, as it is too close to the wall.	angular_speed_z:{angular_speed_z:{0.473147973, 0.473147973, -0.155956715, -0.155956715, -0.155956715, 1.395568907, 1.395568907, 1.400421292, 1.400421292, 0.911298394, 0.911298394, 1.938842475, 1.938842475, 1.44954899, 1.44954899, 1.360293478}}	
5	M4	<1 lap	Crash to left wall; turning	Starts from stable point 3. The robot makes a sharp left turn to correct its position after a previous right turn but crashes into the left side of the hallway wooden wall when it attempts to steer right again with the wall very close.	angular_speed_z:{0.214639574, 0.815018624, 0.815018624, 0.584518924, 0.584518924, 0.898419499, 0.898419499, 1.558785439, 1.558785439, 0.847302228, 0.847302228, -0.029564941, -0.029564941, 0.471517503, 0.471517503, -0.499933749, -0.499933749, -0.638418436, -0.638418436, 0.548292696, 0.548292696, -0.548292696, -0.548292696}	
6	M4	<1 lap	Crash to door corner in robot's left side while in reverse; turning	Starts from stable point 3. The robot makes a sharp left turn to correct its position after a previous right turn, but it successfully steers right when the wall is close, avoiding a collision with the left side of the hallway's wooden wall. However, as the robot continues steering right and approaches the right side of the hallway's white-painted wall, it performs a sharp left turn, turns around, and proceeds in reverse. After traveling a short distance, the robot turns left to correct itself from the earlier right turn. It continues steering left and drives forward into the open office room on its left, crashing into the corner of the open door.	angular_speed_z:{0.611086607, 0.611086607, 0.611086607, 0.197135389, 0.197135389, 1.290431678, 1.290431678, 0.268010147, 0.268010147, 0.268010147, 0.461435437, 0.461435437, -0.185422242}	

7	M4	<1 lap	Crash to wall corner in robot's right side while moving in reverse; turning	Starts from stable point 4. The robot makes a sharp left turn at start from the center of the path, but it successfully steers right when the left side wall is close. After a short distance, the robot oversteers at the corner turn to the left, causing it to travel backward in the reverse direction and collide with the corner of the wooden wall, hitting the metal bottom frame at the turn.	angular_speed_z:{-0.126087636, 0.126087636, 0.061715003, -0.029422373, 0.289498374, 0.566234037, 0.061715003, 0.289498374, 0.566234037, 0.061715003, -0.029422373, 0.413776651}
8	M4	<1 lap	Crash to left wall corner; straight	Starts from stable point 4. The robot makes a sharp left turn at start from the center of the path, but it successfully steers right when the left side wall is close. The robot collides with the corner of the wooden wall at the corner turn to the left, front left wheel hitting the metal bottom frame of the wall.	angular_speed_z:{1.286770105, 0.827699304, 0.928437173, -0.457330465, 0.771124363, 1.286770105, 0.827699304, -0.030923637, -0.457330465, -0.771124363, 0.928437173}
9	M4	<1 lap	Crash to right wall; turning	Starts from stable point 5. The robot steers to right to correct its position after a previous left turn but travels forward to right and crashes into the right side of the hallway wall, with right front wheel hitting the metal door frame, despite its late efforts to turn left to avoid the collision.	angular_speed_z:{1.399699062, 1.478021801, 0.822355092, 0.458208919, 1.180285692, 1.399699062, 1.478021801, 0.822355092, 0.458208919, 1.180285692, 1.228747845}
10	M4	<1 lap	Crash to wall in robot's right side while moving in reverse; straight	Starts from stable point 5. The robot makes a sharp left turn to correct its position after a sharp right turn during its zigzag behavior. It then continues to steer left until it turns around in a reverse direction but at an angle toward its right side, rather than facing straight ahead. It follows with a right turn and moves forward, colliding with the wooden wall on its right side.	angular_speed_z:{-0.473501265, -0.530562162, -0.567968845, 0.125668734, -0.205623895, -0.205623895, -0.473501265, -0.530562162, -0.567968845, 0.125668734, -0.205623895, -0.492398471, -0.492398471}
11	M4	<1 lap	Crash to chair leg; straight	Starts from stable point 6. The robot crashes onto the metal chair legs at the kitchen lounge. The placement of the chairs is not fixed, so the position of the chairs can change from the training set and from every deployment runs.	angular_speed_z:{0.162619058, -0.011582691, -0.059502382, -0.252060711, -0.262765884, 0.162619058, -0.011582691, -0.059502382, -0.262765884, -0.286865145, -0.286865145}

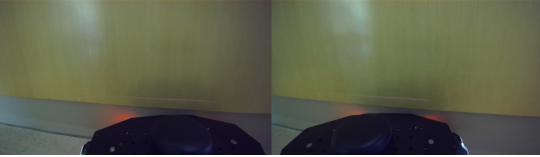
12	M4	<1 lap	Crash to person foot; turning	Starts from stable point 6. The robot crashes into a sitting person's foot in the kitchen lounge while steering left.	angular_speed_z:{0.007691486, 0.007691486, 0.388646185, 0.388646185, 0.037815713, 0.037815713, -0.085426167, -0.085426167, -0.085426167, 0.162837993, 0.162837993, 0.109556694, 0.109556694, 0.109556694}	
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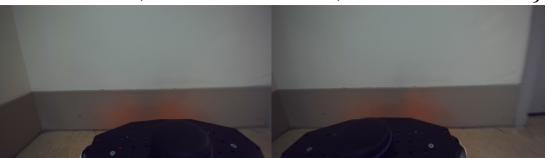
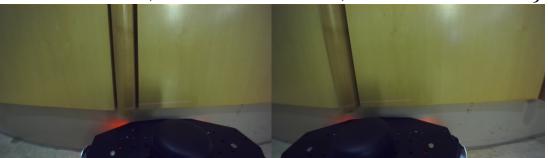
Table 7: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization			Significant Trace Values
		Distance	Failure Type	Notable Characteristics	
1	M5	<1 lap	Constant Steering Output	The model produces a constant angular_speed_z output	angular_speed_z always equals 4.502280148699356e-06

Table 8: Several example failures from the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

#	Model	Failure Characterization			Significant Trace Values
		Distance	Failure Type	Notable Characteristics	
1	M6	<1 lap	Crash to right wall in reverse; turning	Starts from stable point 1. The robot initially steers to the right, but as it nears the wall, it makes a sharp left turn to avoid crashing. It keeps steering left and turns around, and as it approaches the wall again, it repeats the left-turn maneuver to avoid a collision, causing the robot to twirl while moving in the reverse direction. During one of these twirls, the robot eventually hits the wooden door on the right side of the hallway.	angular_speed_z:{0.447348431, 0.447348431, 0.447348431, 0.047186868, 0.047186868, 0.047186868, -0.026201781, -0.026201781, -0.436163306, -0.436163306, -0.436163306, -0.436163306, -0.183235362, -0.183235362, -0.183235362, 2.431949794, 2.431949794, 2.431949794}
2	M6	<1 lap	Crash to left wall; turning	Starts from stable point 1. The robot makes a sharp left turn to avoid a collision with the right side of the hallway wall after a previous sharp right turn but crashes into the corner of the left side of the hallway wall. The robot then moves forward to the left, heading toward the entrance of the elevator aisle. At the entrance, the robot makes a left turn and crashes into the metal bottom frame of the left wooden wall.	angular_speed_z:{-0.381277114, 0.466371015, 0.466371015, 0.466371015, 0.432207584, 0.432207584, 0.610161871, 0.610161871, 0.610161871, 0.772369087, 0.772369087, 0.772369087}

3	M6	<1 lap	Crash to left wall; straight	Starts from stable point 2. The robot makes a sharp left turn at start from the center of the path and straightly crash onto the glassy door with a metal frame on the left side of the hallway.	angular_speed_z:{0.322095729, 0.322095729, 0.704939872, 0.704939872, -0.055271171, -0.055271171, -0.113742143, -0.113742143, 0.29955136, 0.29955136, 0.478679091, 0.478679091, 0.478679091, 0.478679091}	
4	M6	<1 lap	Crash to left wall; straight	Starts from stable point 2. The robot makes a sharp left turn at start from the center of the path and straightly crash onto the glassy door with a metal frame on the left side of the hallway	angular_speed_z:{-0.327962279, -0.327962279, 0.439045295, 0.439045295, 0.923244953, 0.923244953, 0.10804509, 0.10804509, 0.143868439, 0.143868439, 0.143868439}	
5	M6	<1 lap	Crash to left wall; turning	the robot makes a sharp left turn to correct its position after a previous right turn and moves forward to the left. As it gets close to the left wall, the robot steers left again until it turns back heading forward at an angle toward the right. When it approaches the right wall again, it repeats the left-turn maneuver to avoid a collision, moves forward to the left wall, and eventually crashes into the metal bottom frame of the left wooden wall.	angular_speed_z:{-0.087697655, -0.087697655, -0.283475935, -0.283475935, -0.26971975, -0.26971975, 1.409726769, 1.409726769, -0.251405001, -0.251405001, -0.251405001}	
6	M6	<1 lap	Crash to left wall; turning	Starts from stable point 3. The robot steers to the left while in the center of the path and then crashes into the metal bottom frame of the left wooden wall.	angular_speed_z:{1.424308062, 1.424308062, 1.10785532, 1.10785532, 1.265731752, 1.265731752, -0.468167901, -0.468167901, -0.618397236, -0.618397236, -0.4375934, -0.4375934, -0.458236456, 0.458236456, 0.269734159, 0.269734159, -0.351654172, -0.351654172, 2.18875587}	

7	M6	<1 lap	Crash to left wall corner; turning	Starts from stable point 4. The robot makes a sharp left turn at start from the center of the path, but it continues to steer more to left and makes the robot turns back to the forward direction when the left side wall is close. After around 3 rounds of the similar behavior, the robot collides with the corner of the wooden wall at the corner turn to the left, front left wheel hitting the metal bottom frame of the wall.	angular_speed_z:{0.995048136, 0.995048136, -0.378765047, -0.378765047, -0.18452166, -0.18452166, 0.199429728, 0.199429728, 0.199429728, 0.140517253, 0.140517253, 0.140517253, 0.492920458, 0.492920458, 0.492920458}	
8	M6	<1 lap	Crash to left wall corner; turning	Starts from stable point 4. The robot makes a sharp left turn at the start from the center of the path, but it continues steering left, causing it to turn back to the forward direction when it gets near the left wall. The robot proceeds forward and, after turning left at the corner, it makes another left turn and crashes into the white painted wall after the turn.	angular_speed_z:{0.773842245, 0.773842245, 1.248403788, 1.248403788, -0.439069688, -0.439069688, 0.34531045, 0.34531045, 0.219084509, 0.219084509, -0.197831303, -0.197831303, 0.473498225, 0.473498225, 0.473498225}	
9	M6	<1 lap	Crash to left wall; turning	Starts from stable point 5. The robot makes a sharp left turn at the start from the center of the path and crashes into the left side of the hallway wall, with a delayed attempt to steer right.	angular_speed_z:{0.952350676, 0.952350676, -0.461716175, -0.461716175, 0.179847255, 0.179847255, 0.074223742, 0.074223742, 0.074223742, -0.232633576, -0.232633576, -0.189122796, -0.189122796, -0.189122796}	
10	M6	<1 lap	Crash to left wall; straight	Starts from stable point 5. The robot makes a sharp left turn at the start from the center of the path and crashes into the left side of the hallway wall, with a brief attempt to steer left just before hitting the wall.	angular_speed_z:{0.671412706, 0.671412706, 0.671412706, -0.044707857, -0.044707857, 0.581095219, 0.581095219, 0.583267629, 0.583267629, -0.227077186, -0.227077186, -0.227077186, -0.291621059, -0.291621059, -0.291621059}	

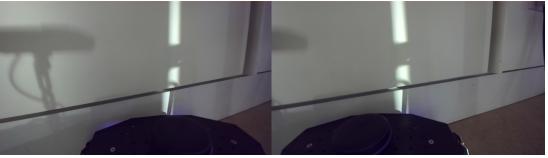
11	M6	<1 lap	Crash to left wall kitchen lounge; turning	Starts from stable point 6. The robot crashes into the left white painted wall in the kitchen lounge after steering left when a set of tables and chairs is in front of it.	angular_speed_z:{1.895359933, 1.895359933, 1.895359933, 0.236673363, 0.236673363, 0.236673363, 0.283517137, 0.283517137, -0.10052155, -0.10052155, -0.10052155, 0.754734278, 0.754734278, 0.754734278, -0.391998589, -0.391998589, -0.391998589}	
12	M6	<1 lap	Crash to left wall kitchen lounge; turning	Starts from stable point 6. The robot makes a sharp left turn at the corner as it enters the kitchen lounge and continues steering left, moving toward the white painted wall on the left side of the kitchen lounge, eventually crashing into it.	angular_speed_z:{-0.393874139, -0.393874139, -0.630612075, -0.630612075, -0.630612075, -0.630612075, -0.346161336, -0.346161336, 0.52335003, 0.52335003, 0.05237278, 0.05237278, 0.274080947, 0.274080947, 0.274080947}	

Table 6: Several example failures from Model 4 of the FAILURES4DEEPNAV catalogue. Each row represents a different failure that a trained model exhibited under deployment and the various metrics that characterize that failure.

ID	Model	Failure Characterization			Significant Trace Values
		Distance	Failure Type	Notable Characteristics	
1	M4	<1 lap	Crash to left wall; turning	Starts from stable point 1. The robot makes a sharp left turn to correct its position after a previous right turn but crashes into the left side of the hallway wall when it attempts to steer right again with the wall very close.	angular_speed_z:{-0.751716554, -0.751716554, -0.680034101, -0.680034101, 0.145155005, 0.924210548, 0.924210548, 0.185124077, 0.185124077, -0.271342874, -0.271342874}
2	M4	<1 lap	Crash to left wall corner; straight	Starts from stable point 1. The robot makes a sharp left turn to correct its position after a previous slight right turn and crashes into the corner of the left side hallway wall.	angular_speed_z:{0.025411712, 0.025411712, -0.286374211, -0.286374211, 0.454366118, -0.454366118, -0.07865218, 0.078652486, -0.038621876, -0.038621876, 0.038621876, -0.188553542, -0.188553542}
3	M4	<1 lap	Crash to right wall; straight	Starts from stable point 2. The robot makes a sharp left turn at start from the center of the path and successfully executes a right turn, moving away from the glassy door with a metal frame on the left side of the hallway. However, the robot continues steering to right, moves towards the right side of the hallway, and ends up hitting onto the wooden door on the right side wall.	angular_speed_z:{-0.13689521, 0.13689521, 0.15185266, 0.15185266, 1.251958966, 1.251958966, 1.12803492, 0.706308246, 0.706308246}
4	M4	<1 lap	Crash to wall in robot's left side in reverse; turning	Starts from stable point 2. The robot makes a sharp left turn during its zigzag behavior and turns around as it steers left and proceeds in the reverse direction. After traveling a short distance, the robot attempts to steer left but crashes into the white-painted wall on its left side, despite its late efforts to turn further left to avoid the collision, as it is too close to the wall.	angular_speed_z:{angular_speed_z:{0.473147973, 0.473147973, -0.155956715, -0.155956715, 0.155956715, 1.395568907, 1.395568907, 1.4040421292, 0.911298394, 0.911298394, 1.938842475, 1.44954899, 1.44954899, 1.36}
5	M4	<1 lap	Crash to left wall; turning	Starts from stable point 3. The robot makes a sharp left turn to correct its position after a previous right turn but crashes into the left side of the hallway wooden wall when it attempts to steer right again with the wall very close.	angular_speed_z:{0.214639574, 0.815018624, 0.815018624, 0.584518924, 0.584518924, 0.898419499, 0.898419499, 1.558785439, 1.558785439, 0.847302228, 0.847302228, -0.029564941, -0.029564941, 0.471517503, 0.471517503, -0.499933749, -0.499933749, -0.638418436, -0.548292696, -0.548292696, -0.548292696}
6	M4	<1 lap	Crash to door corner in robot's left side while in reverse; turning	Starts from stable point 3. The robot makes a sharp left turn to correct its position after a previous right turn, but it successfully steers right when the wall is close, avoiding a collision with the left side of the hallway's wooden wall. However, as the robot continues steering right and approaches the right side of the hallway's white-painted wall, it performs a sharp left turn, turns around, and proceeds in reverse. After traveling a short distance, the robot turns left to correct itself from the earlier right turn. It continues steering left and drives forward into the open office room on its left, crashing into the corner of the open door.	angular_speed_z:{0.611086607, 0.611086607, 0.197135389, 0.197135389, 1.290431678, 0.268010147, 0.268010147, 0.268010147, 0.461435437, 0.461435437, -0.188553542}
7	M4	<1 lap	Crash to wall corner	Starts from stable point 4. The robot makes a sharp left turn at start from	angular_speed_z:{-0.126087636, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037, 0.566234037}