

5 Supplementary Material

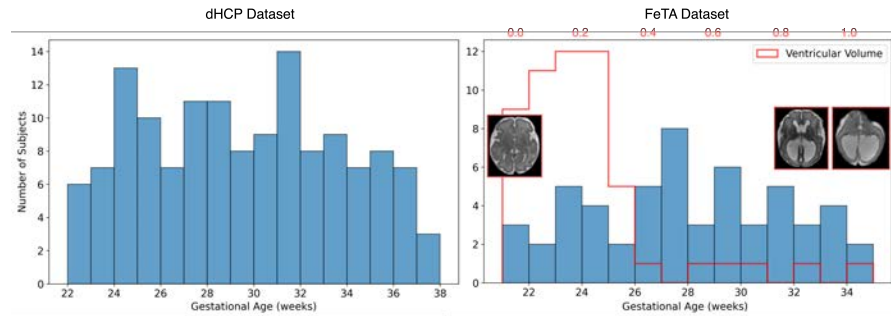


Fig. 5. Distribution of gestational age of the selected fetal subjects for the dHCP (left) and FeTA (right) dataset. The right histogram additionally shows the distribution (red) of the subjects by ventricular volume, normalized between 0 and 1.

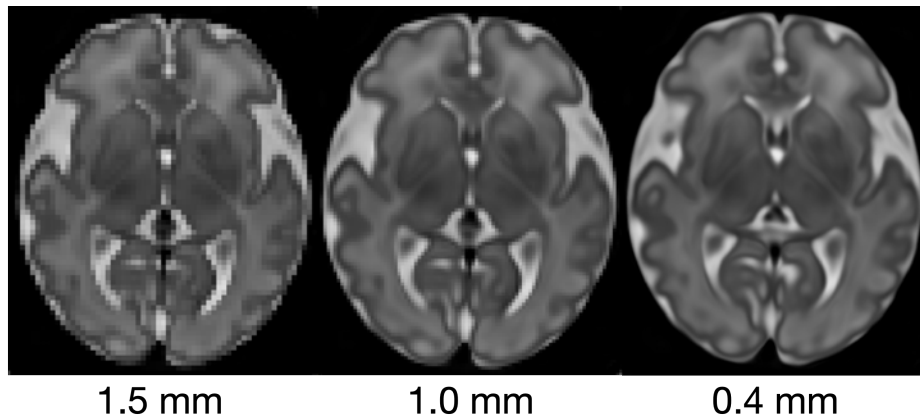


Fig. 6. CINA is resolution agnostic and allows to generate an atlas of arbitrary spatial resolution. Left to right shows an atlas for a fixed time point but with increasing spatial resolutions of 1.5mm, 1.0mm, and 0.4mm isotropic voxel spacing.

Table 2. Dice score and mean absolute error of GA (MAE-GA) of CINA and the CRL atlas. Mean values, with standard deviation in parentheses, for four of six brain regions of 10 neurotypical fetal subjects from dHCP [21], 5 pathological fetal subjects with ventriculomegaly from FeTA and 5 neurotypical and pathological brains with no or only mild VM [20]. *e/c* denotes the setup with explicit conditioning of the lateral ventricular volume as described in section 2.1. \overline{DSC} denotes mean dice over all six regions.

Method	CSF	cGM	LV	\overline{DSC}	MAE-GA
Neurotypical Brains (dHCP)					
CRL [8]	0.83 (0.03)	0.65 (0.04)	0.66 (0.06)	0.76 (0.03)	1.09 (0.59)
CINA	0.86 (0.04)	0.69 (0.08)	0.79 (0.06)	0.83 (0.04)	0.23 (0.21)
Pathological Brains with Ventriculomegaly (FeTA)					
CRL	0.74 (0.05)	0.43 (0.10)	0.41 (0.16)	0.60 (0.12)	1.14 (0.82)
CINA	0.77 (0.08)	0.50 (0.14)	0.73 (0.20)	0.67 (0.18)	2.61 (1.34)
CINA (<i>e/c</i> LV)	0.79 (0.08)	0.52 (0.21)	0.81 (0.07)	0.70 (0.18)	1.24, (0.44)
Neurotypical Brains and Pathological Brains without VM (FeTA)					
CRL	0.80 (0.03)	0.56 (0.08)	0.64 (0.04)	0.72 (0.09)	0.81 (0.41)
CINA	0.83 (0.05)	0.50 (0.10)	0.75 (0.04)	0.74 (0.11)	0.50 (0.44)
CINA (<i>e/c</i> LV)	0.83 (0.05)	0.49 (0.10)	0.77 (0.04)	0.73 (0.12)	0.85 (0.72)