

Supplementary Material

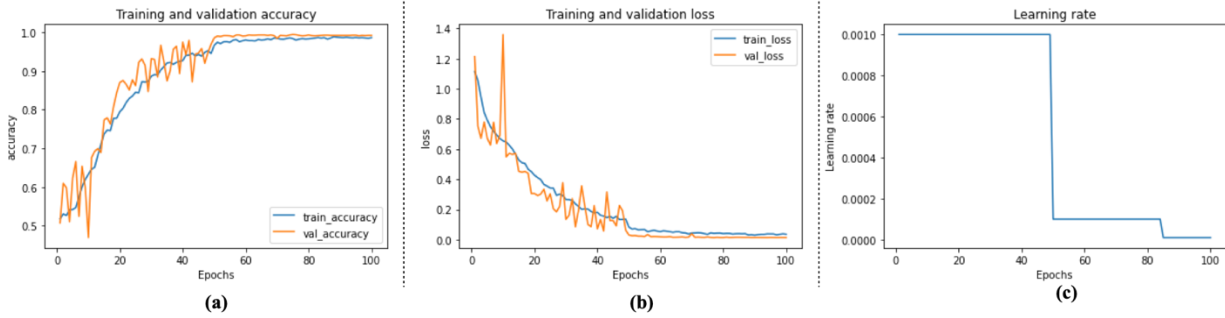


Fig. 1. Learning curves presenting the progress of accuracy (a), loss (b), and learning rate decay (c) during training for 100 epochs of the Age_1 dataset using Approach A.

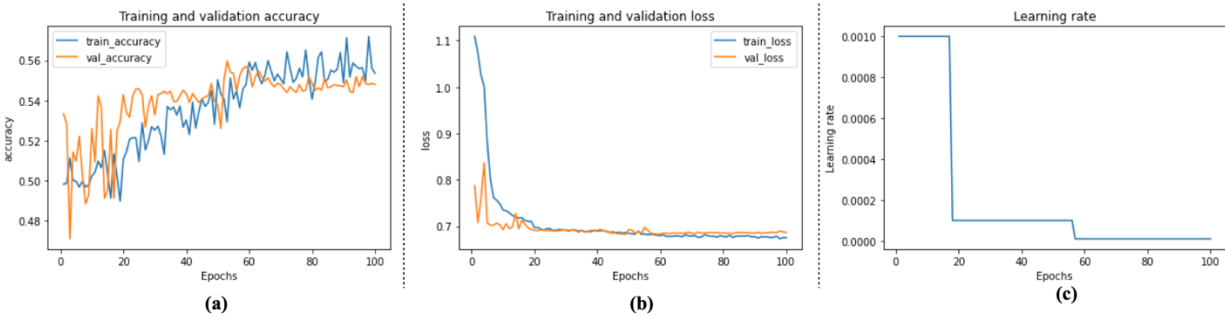


Fig. 2. Learning curves presenting the progress of accuracy (a), loss (b), and learning rate decay (c) during training for 100 epochs of the Smoke_2 dataset using Approach A.

Table I
Details of factor datasets

Dataset	No. of segments	No. of training segs.	No. of testing segs.	Percentage of class 0	Percentage of class 1
Age 1	5,695	3,986	1,709	60.40	39.60
Age 2	5,794	4,055	1,739	60.20	39.80
Age 3	5,749	4,024	1,725	59.68	40.32
Age 4	5,674	3,971	1,703	60.26	39.74
Gender 1	5,666	3,966	1,700	73.90	26.10
Gender 2	5,703	3,992	1,711	72.72	27.28
Gender 3	5,730	4,011	1,719	72.79	27.21
Gender 4	5,780	4,046	1,734	72.72	27.28
Male 1	4,230	2,961	1,269	76.05	23.95
Male 2	4,186	2,930	1,256	75.66	24.34
Male 3	4,201	2,940	1,261	75.46	24.54
Male 4	4,257	2,979	1,278	75.88	24.12
Smoke 1	5,946	4,162	1,784	50.61	49.39
Smoke 2	5,941	4,158	1,783	50.48	49.52
Smoke 3	6,013	4,209	1,804	50.27	49.73
Smoke 4	5,935	4,154	1,781	50.13	49.87
Duration of use 1	5,754	4,027	1,727	60.48	39.42
Duration of use 2	5,719	4,003	1,716	59.87	40.13
Duration of use 3	5,724	4,006	1,718	60.74	39.26
Duration of use 4	5,804	4,062	1,742	59.84	40.16