### **TABLE e-1**

# DIFFUSE CORTICAL MALFORMATION VERSUS NORMAL MRI

### Performance of the different CNN architectures in the validation set.

| CNNMCD            |                |                     |            |  |  |
|-------------------|----------------|---------------------|------------|--|--|
| AUC: 0.91         | Accuracy: 0.84 | Real classification |            |  |  |
| F1-score: 0.84    |                | Normal MRI          | Diffuse CM |  |  |
| Predicted         | Normal MRI     | 129                 | 20         |  |  |
| classification    | Diffuse CM     | 30                  | 127        |  |  |
|                   |                |                     |            |  |  |
| InceptionV3       |                |                     |            |  |  |
| AUC: 0.91         | Accuracy: 0.82 | Real classification |            |  |  |
| F1-score: 0.82    |                | Normal MRI          | Diffuse CM |  |  |
| Predicted         | Normal MRI     | 136                 | 32         |  |  |
| classification    | Diffuse CM     | 23                  | 115        |  |  |
|                   |                |                     |            |  |  |
| ResNet50          |                |                     |            |  |  |
| AUC: 0.74         | Accuracy: 0.63 | Real classification |            |  |  |
| F1-score: 0.60    |                | Normal MRI          | Diffuse CM |  |  |
| Predicted         | Normal MRI     | 138                 | 93         |  |  |
| classification    | Diffuse CM     | 21                  | 54         |  |  |
|                   |                |                     |            |  |  |
| InceptionResNetV2 |                |                     |            |  |  |
| AUC: 0.92         | Accuracy: 0.85 | Real classification |            |  |  |
| F1-score: 0.85    |                | Normal MRI          | Diffuse CM |  |  |
| Predicted         | Normal MRI     | 145                 | 33         |  |  |
| classification    | Diffuse CM     | 14                  | 114        |  |  |

# PERIVENTRICULAR NODULAR HETEROTOPIA VERSUS NORMAL MRI

# Performance of the different CNN architectures in the validation set.

| CNNMCD            |                |                     |      |  |  |  |
|-------------------|----------------|---------------------|------|--|--|--|
| AUC: 0.61         | Accuracy: 0.62 | Real classification |      |  |  |  |
| F1-score: 0.57    |                | Normal MRI          | PVNH |  |  |  |
| Predicted         | Normal MRI     | 45                  | 14   |  |  |  |
| classification    | PVNH           | 114                 | 161  |  |  |  |
|                   |                |                     |      |  |  |  |
| InceptionV3       |                |                     |      |  |  |  |
| AUC: 0.81         | Accuracy: 0.73 | Real classification |      |  |  |  |
| F1-score: 0.73    |                | Normal MRI          | PVNH |  |  |  |
| Predicted         | Normal MRI     | 121                 | 52   |  |  |  |
| classification    | PVNH           | 38                  | 123  |  |  |  |
|                   |                |                     |      |  |  |  |
| ResNet50          |                |                     |      |  |  |  |
| AUC: 0.66         | Accuracy: 0.76 | Real classification |      |  |  |  |
| F1-score: 0.66    |                | Normal MRI          | PVNH |  |  |  |
| Predicted         | Normal MRI     | 115                 | 70   |  |  |  |
| classification    | PVNH           | 44                  | 105  |  |  |  |
|                   |                |                     |      |  |  |  |
| InceptionResNetV2 |                |                     |      |  |  |  |
| AUC: 0.84         | Accuracy: 0.76 | Real classification |      |  |  |  |
| F1-score: 0.75    |                | Normal MRI          | PVNH |  |  |  |
| Predicted         | Normal MRI     | 117                 | 40   |  |  |  |
| classification    | PVNH           | 42                  | 135  |  |  |  |

# DIFFUSE CORTICAL MALFORMATION VERSUS PERIVENTRICULAR NODULAR HETEROTOPIA VERSUS NORMAL MRI

### Performance of the different CNN architectures in the validation set.

| CNNMCD                                       |  |                     |            |      |  |  |  |
|--|--|---------------------|------------|------|--|--|--|
| <b>AUC: 0.70 Accuracy: 0.47</b>              |  | Real classification |            |      |  |  |  |
| F1-score: 0.44                               |  | Normal MRI          | Diffuse CM | PVNH |  |  |  |
| Predicted                                    | Normal MRI                                   | 88                  | 16         | 110  |  |  |  |
| classification                               | Diffuse CM                                   | 33                  | 109        | 35   |  |  |  |
|  | PVNH   | 38                  | 22         | 30   |  |  |  |
|  |  |                     |            |      |  |  |  |
| InceptionV3                                  |  |                     |            |      |  |  |  |
| AUC: 0.80 Accuracy: 0.56 Real classification |  |                     |            |      |  |  |  |
| F1-score: 0.53                               |  | Normal MRI          | Diffuse CM | PVNH |  |  |  |
| Predicted                                    | Normal MRI                                   | 117                 | 32         | 70   |  |  |  |
| classification                               | <b>Diffuse CM</b>                            | 24                  | 107        | 62   |  |  |  |
|  | PVNH   | 18                  | 8          | 43   |  |  |  |
|  |  |                     |            |      |  |  |  |
| ResNet50                                     |  |                     |            |      |  |  |  |
| AUC: 0.72                                    | AUC: 0.72 Accuracy: 0.47 Real classification |                     |            |      |  |  |  |
| F1-score: 0.45                               |  | Normal MRI          | Diffuse CM | PVNH |  |  |  |
| Predicted                                    | Normal MRI                                   | 128                 | 84         | 134  |  |  |  |
| classification                               | Diffuse CM                                   | 20                  | 58         | 1    |  |  |  |
|  | PVNH   | 11                  | 5          | 40   |  |  |  |
|  |  |                     |            |      |  |  |  |
| InceptionResNetV2                            |  |                     |            |      |  |  |  |
| AUC: 0.87                                    | Accuracy: 0.72                               | Real classification |            |      |  |  |  |
| F1-score: 0.72                               |  | Normal MRI          | Diffuse CM | PVNH |  |  |  |
| Predicted                                    | Normal MRI                                   | 116                 | 40         | 27   |  |  |  |
| classification                               | Diffuse CM                                   | 11                  | 101        | 18   |  |  |  |
|  | PVNH   | 32                  | 6          | 130  |  |  |  |

**Legend: AUC:** Area under the receiver operator characteristic curve. **CM:** Cortical malformation. **CNN:** Convolutional neural network. **MRI:** Magnetic resonance imaging. **PVNH:** Periventricular nodular heterotopia.