

Fig.1

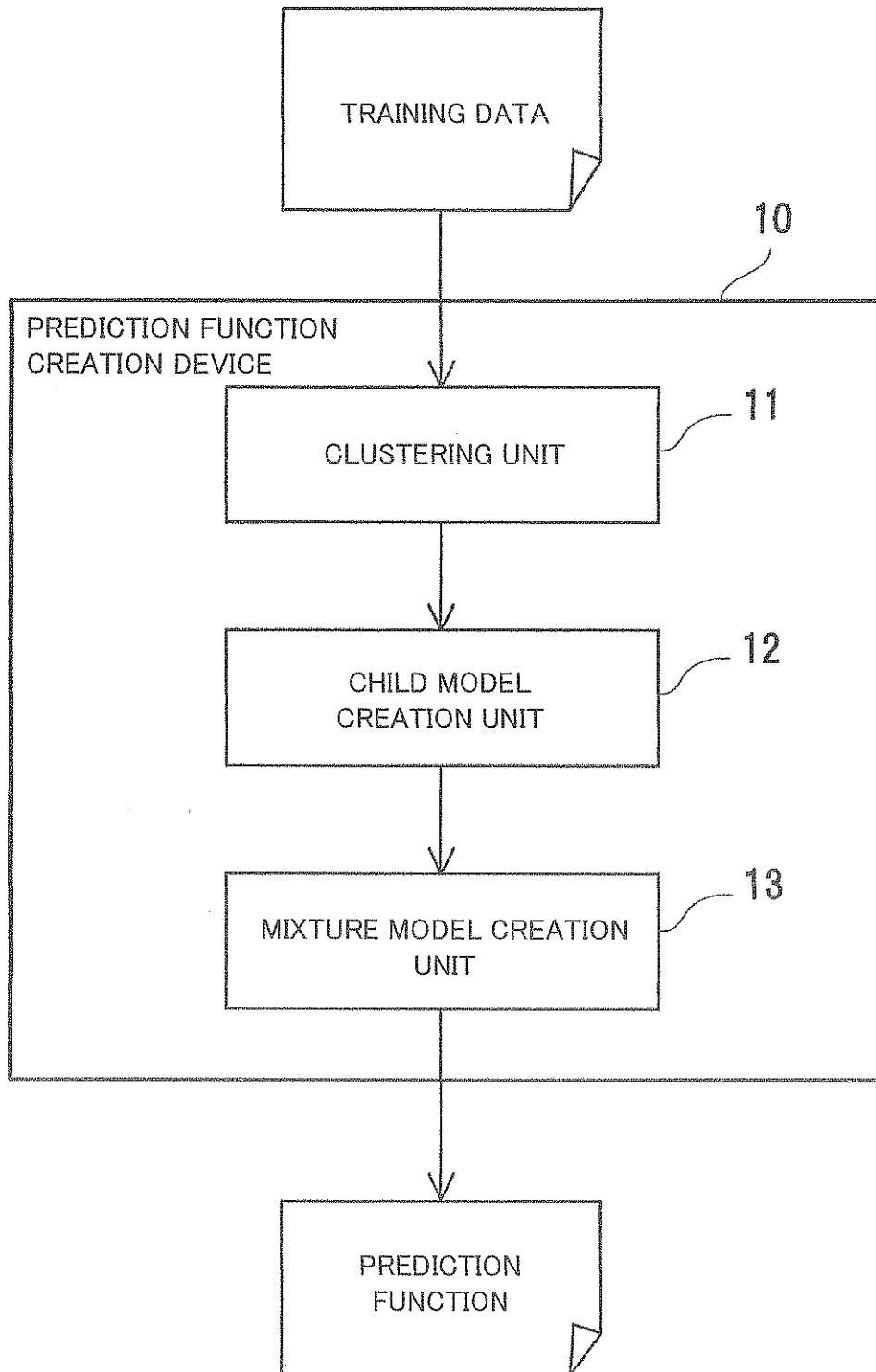


Fig.2

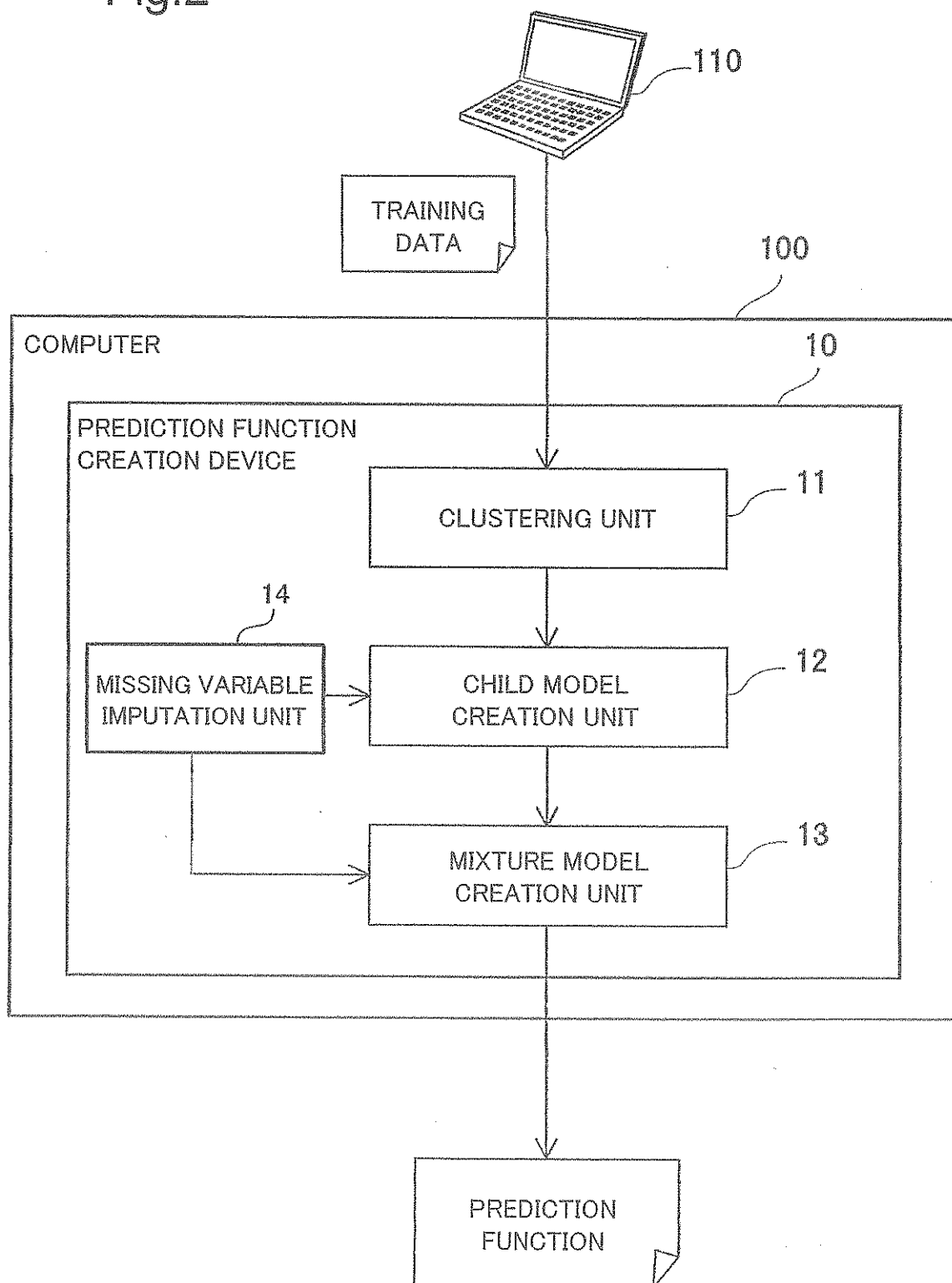


Fig.3

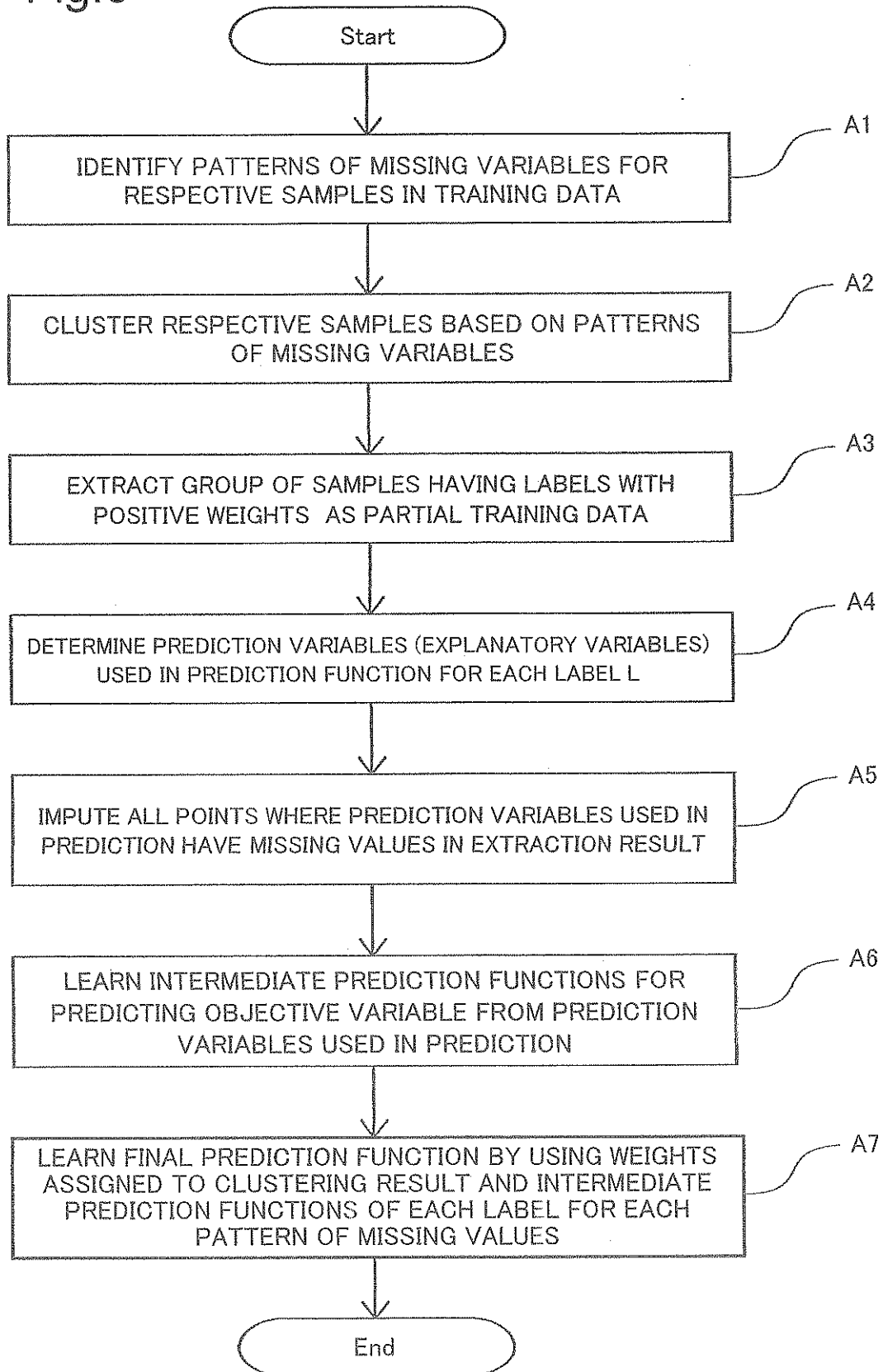


Fig.4

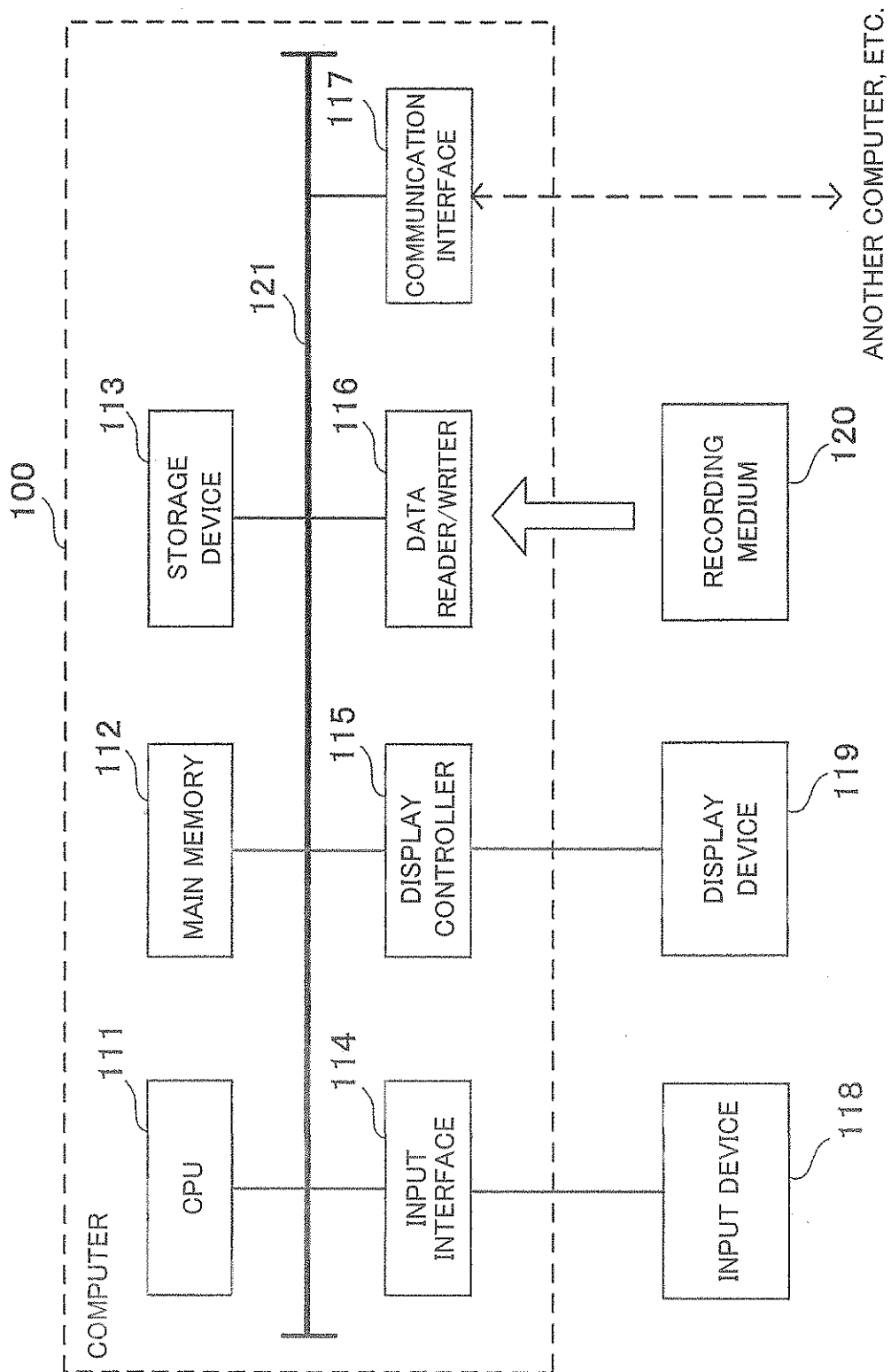


Fig.5

| NUMBER | X1 | X2 | X3 | Y |
|--------|----|----|----|---|
| 1      | *  | *  | *  | * |
| ⋮      | *  | *  | *  | * |
| 5      | *  | *  | *  | * |
| 6      | NA | *  | *  | * |
| ⋮      | NA | *  | *  | * |
| 10     | NA | *  | *  | * |
| 11     | NA | NA | *  | * |
| ⋮      | NA | NA | *  | * |
| 20     | NA | NA | *  | * |
| 21     | *  | *  | NA | * |
| ⋮      | *  | *  | NA | * |
| 40     | *  | *  | NA | * |

Fig.6

| SET OF NON-MISSING<br>VARIABLES | MULTIPLIED VALUE |
|---------------------------------|------------------|
| EMPTY SET                       | 0                |
| X1                              | 25               |
| X2                              | 30               |
| X3                              | 20               |
| X1, X2                          | 50               |
| X2, X3                          | 20               |
| X1, X3                          | 10               |
| X1, X2, X3                      | 15               |

Fig.7

| PATTERN OF MISSING VARIABLES | CANDIDATE (X1) | CANDIDATE (X2) | CANDIDATE (X3) | CANDIDATE (X1, X2) | CANDIDATE (X2, X3) |
|------------------------------|----------------|----------------|----------------|--------------------|--------------------|
| EMPTY SET                    | 2              | 2              | 2              | 1                  | 1                  |
| X1                           | 4              | 1              | 1              | 3                  | 0                  |
| X1, X2                       | 3              | 3              | 0              | 5                  | 2                  |
| X3                           | 2              | 1              | 4              | 0                  | 3                  |
| X2                           | 1              | 4              | 1              | 3                  | 3                  |
| X2, X3                       | 0              | 3              | 3              | 2                  | 5                  |
| X1, X3                       | 3              | 0              | 3              | 2                  | 2                  |

Fig.8

| PATTERN OF MISSING<br>VARIABLES | LABEL 1<br>(X2) | LABEL 2<br>(X3) | LABEL 3<br>(X1 , X2) | LABEL 4<br>(X2 , X3) | LABEL 5<br>(X1) |
|---------------------------------|-----------------|-----------------|----------------------|----------------------|-----------------|
| EMPTY SET                       | -               | -               | 0.5                  | 0.5                  | -               |
| X1                              | 0.21            | 0.21            | -                    | 0.58                 | -               |
| X1, X2                          | -               | 1               | -                    | -                    | -               |
| X3                              | 0.27            | -               | 0.73                 | -                    | -               |
| X2                              | -               | 0.5             | -                    | -                    | 0.5             |
| X2, X3                          | -               | -               | -                    | -                    | 1               |
| X1, X3                          | 1               | -               | -                    | -                    | -               |

Fig.9

| LABEL            | SAMPLE NUMBER |
|------------------|---------------|
| LABEL 1 (X2)     | 1-10, 21-40   |
| LABEL 2 (X3)     | 1-20          |
| LABEL 3 (X1, X2) | 1-5, 21-40    |
| LABEL 4 (X2, X3) | 1-10          |
| LABEL 5 (X1)     | 1-5, 21-40    |

Fig.10

| PATTERN OF MISSING VARIABLES | FINAL PREDICTION FUNCTION                            |
|------------------------------|------------------------------------------------------|
| EMPTY SET                    | $0.5 f_3(x_1, x_2) + 0.5 f_4(x_2, x_3)$              |
| X1                           | $0.21 f_1(x_2) + 0.21 f_2(x_3) + 0.58 f_4(x_2, x_3)$ |
| X1, X2                       | $f_2(x_3)$                                           |
| X3                           | $0.27 f_1(x_2) + 0.73 f_3(x_1, x_2)$                 |
| X2                           | $0.5 f_2(x_3) + 0.5 f_5(x_1)$                        |
| X2, X3                       | $f_5(x_1)$                                           |
| X1, X3                       | $f_1(x_2)$                                           |

Fig.11

