

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|--------|---------|-----------|----------|--------|----------|--------|
| 0      | 1       | 0         | 0        | 0      | 1        | 0      |

**Figure 1(a)**

1 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 1 0 0

**Figure 1(b)**

| Failure sequence | Inter-failure gap |
|------------------|-------------------|
| 2                | 5                 |
| 3                | 3                 |
| 4                | 10                |
| 5                | 5                 |
| 6                | 3                 |

**Figure 1 (c)**

1 0 0 0 0 0 1 0 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 1 0 0  
 → 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 1

**Figure 1(d)**

| Parameter                                   | Sample value |
|---------------------------------------------|--------------|
| Failure occurrence indicator                | 1            |
| PM counter – average call attempts per hour | 5000         |
| Temperature                                 | 30°C         |
| Wind speed                                  | 100 m / sec  |

**Figure 1(e)**

| Time period                                         | 1    | 2    | 3    | 4    | 5    | 6    | 7    |
|-----------------------------------------------------|------|------|------|------|------|------|------|
| Failure occurrence indicator                        | 1    | 0    | 0    | 0    | 0    | 0    | 1    |
| PM counter – average call attempts per hour (count) | 5000 | 5500 | 4800 | 5300 | 5200 | 5000 | 4900 |
| Temperature (°C)                                    | 30   | 28   | 27   | 29   | 30   | 31   | 28   |
| Wind speed (m/sec)                                  | 100  | 120  | 80   | 90   | 110  | 90   | 80   |

**Figure 1(f)**

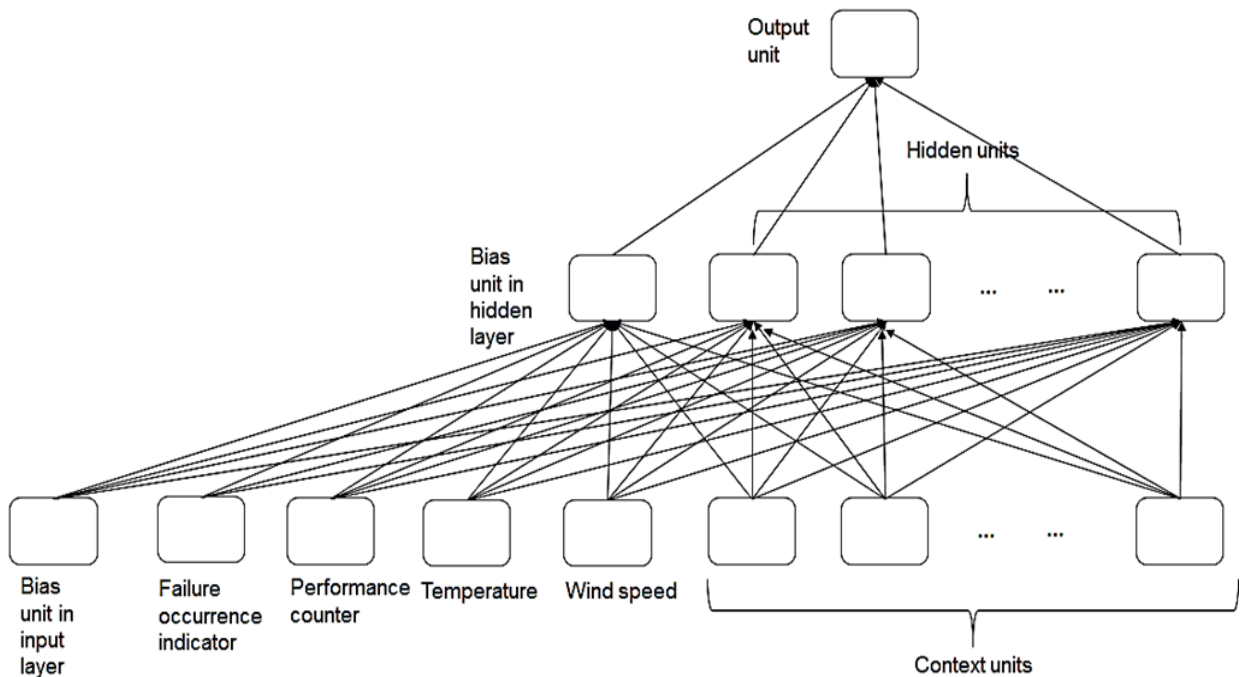


**Figure 2 (a)**

10010000100000000000100100001000

**Figure 2 (b)**

000000010010000100000000000100100001

**Figure 2 (c)**

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10000000000000000000000000100000000000000000000  
00000000000000000000000000000000010000000000000000000001
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**Figure 2 (d)**



| Sl. No. | Basic Memory Depth value | Basic weight range  |
|---------|--------------------------|---------------------|
| 1       | 10                       | 3, [-1.5, +1.5]     |
| 2       | 15                       | 3, [-1.5, +1.5]     |
| 3       | 20                       | 3.1, [-1.55, +1.55] |
| 4       | 25                       | 3.3, [-1.65, +1.65] |
| 5       | 30                       | 3.3, [-1.65, +1.65] |
| 6       | 35                       | 3.6, [-1.8, +1.8]   |
| 7       | 40                       | 3.6, [-1.8, +1.8]   |
| 8       | 45                       | 3.7, [-1.85, +1.85] |
| 9       | 50                       | 3.8, [-1.9, +1.9]   |
| 10      | 55                       | 4.0, [-2.0, +2.0]   |
| 11      | 60                       | 4.1, [-2.05, +2.05] |
| 12      | 65                       | 4.4, [-2.2, +2.2]   |
| 13      | 70                       | 4.6, [-2.3, +2.3]   |
| 14      | 75                       | 4.8, [-2.4, +2.4]   |

Figure 5

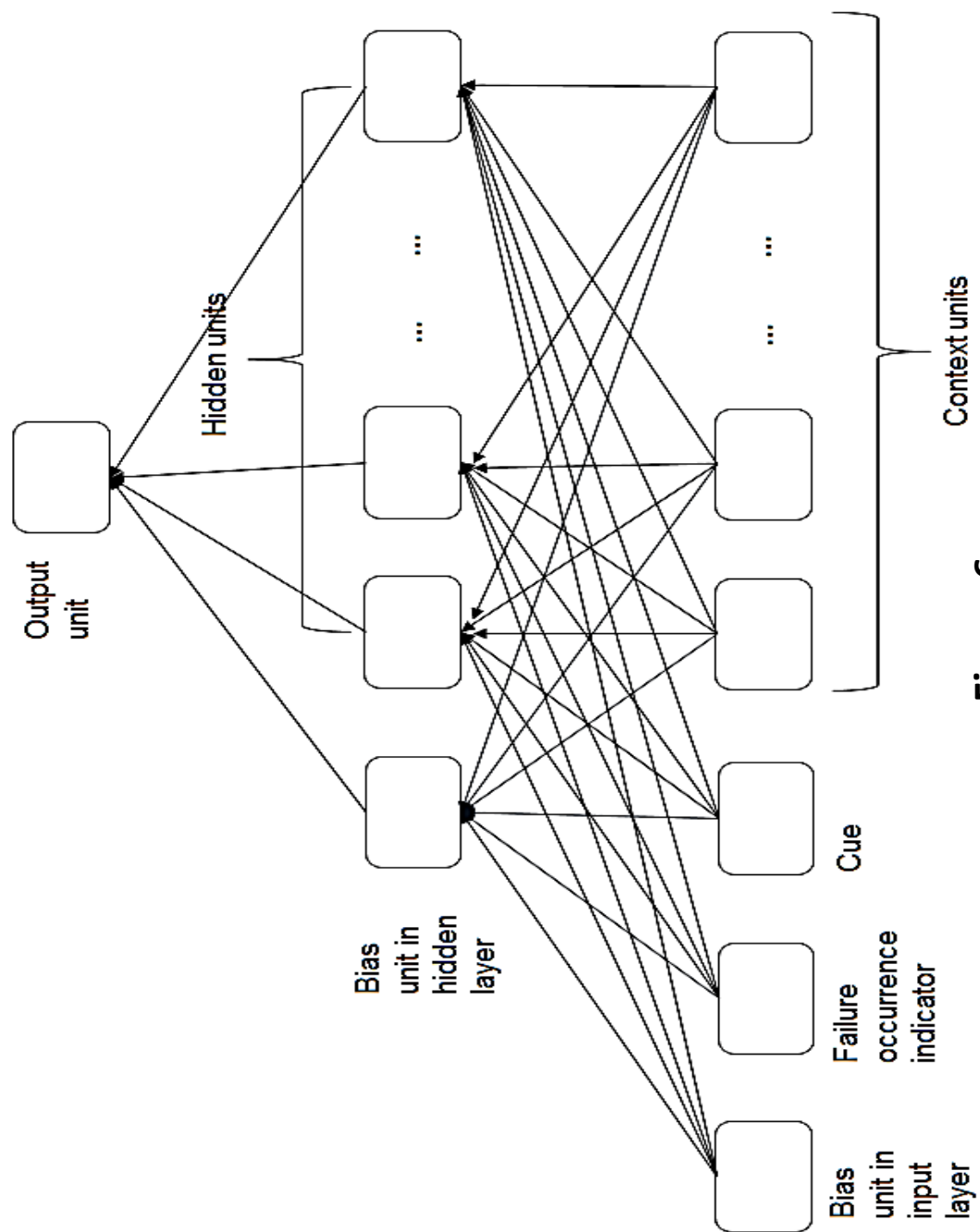


Figure 6

[illegible]

## Figure 7

| Test No. | Failure history sequence | Composite initial weight range | Error limit | Actual weight - low | Actual weight - high | Number of epochs |
|----------|--------------------------|--------------------------------|-------------|---------------------|----------------------|------------------|
| 1        | 40-20                    | 3.35                           | 0.02        | -2.0081             | 1.8586               | 6712             |
| 2        | 40-15                    | 3.3                            | 0.02        | -2.1122             | 1.9769               | 2743             |
| 3        | 40-20-10                 | 3.23                           | 0.02        | -2.4951             | 2.1908               | 4571             |
| 4        | 40-20-10-5               | 2.9                            | 0.03        | -2.0715             | 1.7491               | 659              |
| 5        | 40-20-10-5-10            | 2.52                           | 0.03        | -1.7803             | 1.6559               | 719              |
| 6        | 25-15-10                 | 3.1                            | 0.02        | -2.0263             | 1.9082               | 1228             |
| 7        | 50-25-10-15              | 3.275                          | 0.02        | -2.2189             | 1.9656               | 1564             |
| 8        | 20-5-15-20               | 3.05                           | 0.02        | -2.3284             | 2.5052               | 1289             |
| 9        | 20-5-15-20-5             | 2.84                           | 0.01        | -1.8876             | 1.8331               | 6558             |
| 10       | 5-10-60-5-10             | 3.22                           | 0.01        | -2.0698             | 1.9521               | 13204            |
| 11       | 10-5-70-10-5             | 3.12                           | 0.004       | -1.9481             | 1.7902               | 26214            |

**Figure 8**

...001 00.....001 00.....001 00.....001 00.....001 00.....00100...

x x x x x

**Figure 9 (a)**

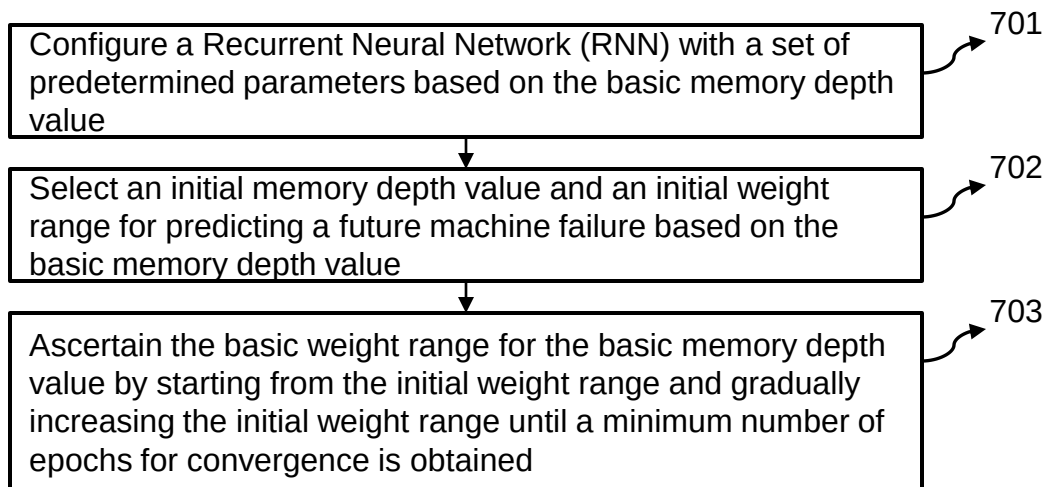


**Figure 9 (b)**

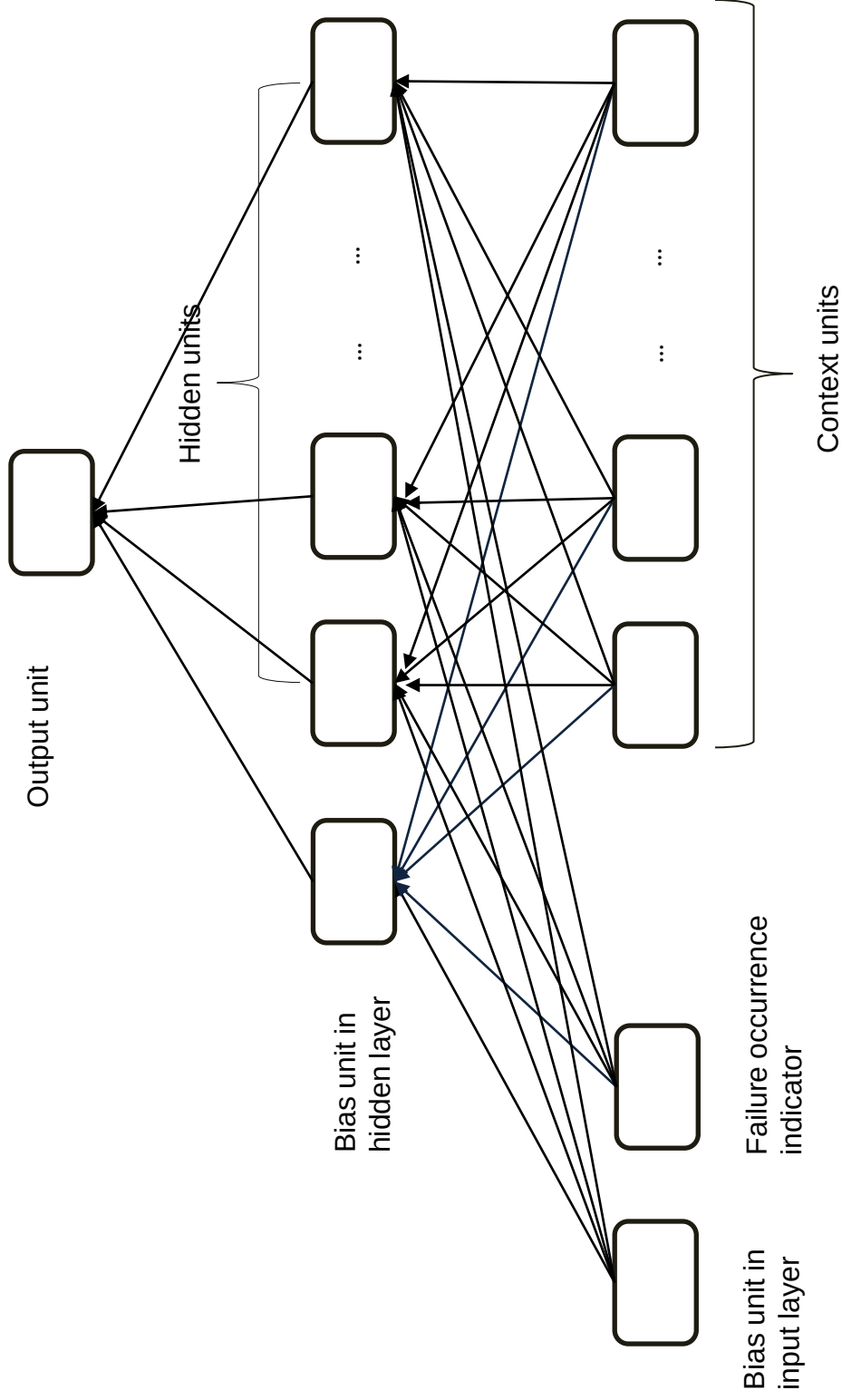


Figure 9(c)

| Sl. No. | Basic Memory Depth value | Basic weight range  | Error limit | Actual weight - low | Actual weight - high | Number of epochs |
|---------|--------------------------|---------------------|-------------|---------------------|----------------------|------------------|
| 1       | 10                       | 3, [-1.5, +1.5]     | 0.04        | -1.5566             | 1.5863               | 194              |
| 2       | 15                       | 3, [-1.5, +1.5]     | 0.03        | 1.6147              | 1.1628               | 233              |
| 3       | 20                       | 3.1, [-1.55, +1.55] | 0.03        | -1.6469             | 1.6463               | 361              |
| 4       | 25                       | 3.3, [-1.65, +1.65] | 0.03        | -1.7988             | 1.7966               | 367              |
| 5       | 30                       | 3.3, [-1.65, +1.65] | 0.02        | -1.9987             | 1.8500               | 1424             |
| 6       | 35                       | 3.6, [-1.8, +1.8]   | 0.02        | -2.0050             | 1.9746               | 1299             |
| 7       | 40                       | 3.6, [-1.8, +1.8]   | 0.008       | -2.0271             | 1.9922               | 9304             |
| 8       | 45                       | 3.7, [-1.85, +1.85] | 0.008       | -2.1987             | 2.0910               | 10567            |
| 9       | 50                       | 3.8, [-1.9, +1.9]   | 0.008       | -2.4080             | 2.1497               | 22255            |
| 10      | 55                       | 4.0, [-2.0, +2.0]   | 0.008       | -2.2674             | 2.0989               | 10247            |
| 11      | 60                       | 4.1, [-2.05, +2.05] | 0.008       | -2.2648             | 2.2206               | 13213            |
| 12      | 65                       | 4.4, [-2.2, +2.2]   | 0.008       | -2.5686             | 2.4320               | 23666            |
| 13      | 70                       | 4.6, [-2.3, +2.3]   | 0.004       | -2.7015             | 2.7432               | 48756            |
| 14      | 75                       | 4.8, [-2.4, +2.4]   | 0.004       | -2.7239             | 2.7624               | 26913            |

Figure 9(d)