Delayed Conditioning

Setup

ucs+,cs+,ucs-,cs-

salivate

0,1,2

T 0 > ucs+ = 1 : 1000000

T 1 > ucs- = 2 : 1000000

T 2 > ? = 0 : 10000

P 0 > ucs+ = 0.03,0.97

P 1 > ucs- = 1.0,0.0

Input

cs+:0.9

ucs+:1.0

cs-:1.0

ucs-:1.0

EPSILON

Delayed Conditioning Output

--------- Status --------

Sigma: ['', 'ucs+', 'cs+', 'ucs-', 'cs-']

Delta: ['', 'salivate']

------- I/O -------------

Last Input: [['ucs-', 1.0]]

Current Input:

Last Output:

Current Output:

------- All States ------

[C] State 0

<' '>: None

  <ucs+>: State 0 -> State 1

    Confidence: 1000000.0

    PDelta:

      {'': 0.03, 'salivate': 0.97}

  <cs+>: State 0 -> State 3

    Confidence: 0.09260180178774534

    (State 0 -> State 3) => (State 3 -> State 4) = 0.44691684278712646

    (State 0 -> State 3) => (State 6 -> State 0) = 0.6226463974646923

    PDelta:

      {'': 0.9999584488773614, 'salivate': 4.1551122638082214e-05}

  <ucs->: None

  <cs->: None

[+] State 1

  <' '>: None

  <ucs+>: None

  <cs+>: None

  <ucs->: State 1 -> State 2

    Confidence: 1000000.0

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <cs->: None

[+] State 2

  <' '>: State 2 -> State 0

    Confidence: 10000.0

    PDelta:

      {'': 1.0, 'salivate': 0.0}

<ucs+>: None

<cs+>: None

<ucs->: None

<cs->: None

[+] State 3

<' '>: None

<ucs+>: State 3 -> State 4

   Confidence: 908020.0085600805

   (State 3 -> State 4) => (State 4 -> State 5) = 0.44691684278712646

   (State 3 -> State 4) => (State 0 -> State 3) = 0.44691684278712646

   PDelta:

     {'': 0.029999880312258614, 'salivate': 0.9700001196877411}

<cs+>: None

<ucs->: None

<cs->: None

[+] State 4

<' '>: None

<ucs+>: None

<cs+>: None

<ucs->: None

<cs->: State 4 -> State 5

   Confidence: 0.09080163859312829

   (State 4 -> State 5) => (State 5 -> State 6) = 0.44691684278712646

   (State 4 -> State 5) => (State 3 -> State 4) = 0.44691684278712646

   PDelta:

     {'': 1.0, 'salivate': 0.0}

[+] State 5

  <' '>: None

  <ucs+>: None

  <cs+>: None

  <ucs->: State 5 -> State 6

    Confidence: 952898.9379421528

    (State 5 -> State 6) => (State 4 -> State 5) = 0.44691684278712646

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <cs->: None

[ql] State 6

  <' '>: State 6 -> State 0

    Confidence: 0.09717499977373682

    (State 6 -> State 0) => (State 0 -> State 3) = 0.6226463974646923

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <ucs+>: None

  <cs+>: None

  <ucs->: None

  <cs->: None

Second-Order Conditioning

Setup

ucs+,cs1+,cs2+,ucs-,cs1-,cs2-

salivate

0,1,2

T 0 > ucs+ = 1 : 1000000

T 1 > ucs- = 2 : 1000000

T 2 > ? = 0 : 10000

P 0 > ucs+ = 0.03,0.97

P 1 > ucs- = 1.0,0.0

Input

cs+:0.9

ucs+:1.0

cs-:1.0

ucs-:1.0

EPSILON

cs2+:0.9

cs1+:1.0

cs2-:1.0

cs1-:1.0

EPSILON

Second-Order Conditioning Output

--------- Status --------

Sigma: ['', 'ucs+', 'cs1+', 'cs2+', 'ucs-', 'cs1-', 'cs2-']

Delta: ['', 'salivate']

------- I/O -------------

Last Input: [['cs1-', 1.0]]

Current Input:

Last Output:

Current Output:

------- All States ------

[C] State 0

  <' '>: None

  <ucs+>: State 0 -> State 1

    Confidence: 1000000.0

    PDelta:

      {'': 0.03, 'salivate': 0.97}

  <cs1+>: State 0 -> State 3

    Confidence: 0.09245766376832662

    (State 0 -> State 3) => (State 6 -> State 0) = 0.5915140775914577

    (State 0 -> State 3) => (State 3 -> State 4) = 0.44691684278712646

    PDelta:

      {'': 0.9999583685597643, 'salivate': 4.163144023589871e-05}

  <cs2+>: State 0 -> State 7

    Confidence: 0.0924539203956528

    (State 0 -> State 7) => (State 10 -> State 0) = 0.6226463974646923

    (State 0 -> State 7) => (State 6 -> State 0) = 0.01886768012676538

    (State 0 -> State 7) => (State 7 -> State 8) = 0.44691684278712646

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <ucs->: None

  <cs1->: None

  <cs2->: None

[+] State 1

<' '>: None

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: State 1 -> State 2

  Confidence: 1000000.0

  PDelta:

    {'': 1.0, 'salivate': 0.0}

<cs1->: None

<cs2->: None

[+] State 2

<' '>: State 2 -> State 0

  Confidence: 10000.0

  PDelta:

    {'': 1.0, 'salivate': 0.0}

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: None

<cs1->: None

<cs2->: None

[+] State 3

<' '>: None

<ucs+>: State 3 -> State 4

  Confidence: 908020.0123772664

  (State 3 -> State 4) => (State 4 -> State 5) = 0.44691684278712646

  (State 3 -> State 4) => (State 0 -> State 3) = 0.44691684278712646

PDelta:

{'': 0.029999880186143423, 'salivate': 0.9700001198138568}

<cs1+>: None

<cs2+>: None

<ucs->: None

<cs1->: None

<cs2->: None

[+] State 4

<' '>: None

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: None

<cs1->: State 4 -> State 5

Confidence: 0.09080163859312829

(State 4 -> State 5) => (State 5 -> State 6) = 0.44691684278712646

(State 4 -> State 5) => (State 3 -> State 4) = 0.44691684278712646

PDelta:

{'': 1.0, 'salivate': 0.0}

<cs2->: None

[+] State 5

<' '>: None

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: State 5 -> State 6

Confidence: 952898.9379421528

(State 5 -> State 6) => (State 4 -> State 5) = 0.44691684278712646

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <cs1->: None

  <cs2->: None

[+] State 6

  <' '>: State 6 -> State 0

    Confidence: 0.09687281774480473

    (State 6 -> State 0) => (State 0 -> State 7) = 0.01886768012676538

    (State 6 -> State 0) => (State 0 -> State 3) = 0.5915140775914577

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <ucs+>: None

  <cs1+>: None

  <cs2+>: None

  <ucs->: None

  <cs1->: None

  <cs2->: None

[+] State 7

  <' '>: None

  <ucs+>: None

  <cs1+>: State 7 -> State 8

    Confidence: 0.08395307370656567

    (State 7 -> State 8) => (State 8 -> State 9) = 0.44691684278712646

    (State 7 -> State 8) => (State 0 -> State 7) = 0.44691684278712646

    PDelta:

      {'': 0.9999583685597643, 'salivate': 4.163144023589871e-05}

<cs2+>: None

<ucs->: None

<cs1->: None

<cs2->: None

[+] State 8

<' '>: None

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: None

<cs1->: None

<cs2->: State 8 -> State 9

  Confidence: 0.09080163859312829

  (State 8 -> State 9) => (State 9 -> State 10) = 0.44691684278712646

  (State 8 -> State 9) => (State 7 -> State 8) = 0.44691684278712646

  PDelta:

    {'': 1.0, 'salivate': 0.0}

[+] State 9

<' '>: None

<ucs+>: None

<cs1+>: None

<cs2+>: None

<ucs->: None

<cs1->: State 9 -> State 10

  Confidence: 0.08652478497879915

  (State 9 -> State 10) => (State 8 -> State 9) = 0.44691684278712646

  PDelta:

{'': 1.0, 'salivate': 0.0}

    <cs2->: None

[ql] State 10

  <' '>: State 10 -> State 0

    Confidence: 0.09717499977373682

    (State 10 -> State 0) => (State 0 -> State 7) = 0.6226463974646923

    PDelta:

      {'': 1.0, 'salivate': 0.0}

  <ucs+>: None

  <cs1+>: None

  <cs2+>: None

  <ucs->: None

  <cs1->: None

  <cs2->: None