Notes:

1. P(0) uses only a few select bits of the PC (program counter) to index the base predictor.
2. The two "hash" boxes shown for each stage need not be identical; the number of output bits of each type of the hash function are probably unequal.
3. The histories are: h[0:L(1)-1], h[0:L(2)-1], etc., with L(1) < L(2) < L(3) < L(4), and L(0) = 0. The "hash function" is usually very simple, e.g. bitwise XOR.
4. Each tag is itself a hash value, and between 4-8 bits usually.
5. Each "prediction" is usually a 2-3 bit FSM state encoding, from which the prediction can be easily obtained.
5. P(0) output is the default prediction, if each of P(1) through P(4) mismatch. Otherwise, the prediction corresponds to the longest matching history.