Fig. 7. Actual search area.

least-row/column-sum feature would fail to identify this RM. CPU time taken was about 2.2 s on a DEC-1090 system for a 133 × 133 search area. Two of the RM's, being of high mean gray levels, viz. 18 and 24, were identified at the 6th and 8th resetting of g_a, respectively. Such behavior of an RM pattern is to be expected due to the fact that RM's are dark in darker backgrounds and light in lighter backgrounds.

V. Conclusions

A new hill-climbing approach based on gray value clustering is presented for Reseau mark detection on vidicon imageries. Due to the unified nature of the feature selected for the recognition of the RM pattern, the approach is found to work in noise search areas unlike some of the earlier methods. Efficacy of the proposed algorithm has been demonstrated by application to both synthetic and actual picture data.

Acknowledgment

The author wishes to thank Prof. U. R. Rao, Director, ISAC, Bangalore, Dr. A. S. Prakasa Rao, Head, MOPD and Dr. N. Ramani Head, DPCF for having provided facilities to carry out this work. Thanks are also due to Dr. Kasturirangan, Project Director, SEO for permitting the use of the TV data, and to W. V. Eswara Prakash for providing the data in a DEC-compatible format. Above all, the author gratefully acknolwedges the encouragement given by R. S. Bhat Head, Orbital Mechanics Section, without which the work would not have been possible.

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Corrections to "A Computational Approach to Approximate and Plausible Reasoning with Applications to Expert Systems"

HENRI PRADE

In the above paper,[1] errors that alter the author's intended meaning are corrected as follows:

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The author is with Langages et Systémes Informatiques, Université Paul Sabatier, Toulouse Cedex, France.

[1] H. Prade, *IEEE Trans. Pattern Anal. Machine Intell.*, vol. PAMI- 7, pp. 260–283, May 1985.

Page 260, right-hand column, line 29 should read: Section III-A-2.

Page 261, left-hand column, line 18 should read: since $p \wedge \neg p = \mathbf{0}$).

Page 262, right-hand column, line 35 should read: checked (see Schwyla [199], Prade [171]) that $\varphi \circ g_\lambda$ is a probability. Line 47 should read: *B. Modeling Imprecision*. Line 48 should read *1) The Concept of a Possibility Distribution:*

Page 263, left-hand column, line 39 should read: normalized $\exists s \in S$, $\pi_x(s) = 1$.

The right-hand column of page 263 should be corrected as follows:

- line 21 should read as follows: $Sp(A_2) \geq Sp(A_3) \geq Sp(A_1)$.
- Equation (24) should be as follows:

$$\forall (s, t) \in S \times T,\ \pi_{X,Y}(s, t) = \min(\pi_X(s), \pi_Y(t)). \tag{24}$$

- The line after (27) should read: i.e., $\neg p$ will be interpreted as X is $\overline{A}$."
- Equation (29) should be as follows:

$$\begin{aligned} \forall s \in S,\ \forall t \in T,\ \pi_{X,Y}(s, t) &= \mu_{A+B}(s, t) \\ &= \max(\mu_A(s), \mu_B(t)). \end{aligned} \tag{29}$$

Page 264, left-hand column, lines 4 and 5 should read: "*2) Possibility and Necessity Measures Issued From a Possibility Distribution:*" In Fig. 1 and line 26 on the same page, the value indicated should be: $N(A;[28, 32])$ [computed by (45)]. Thus, line 26 should read: $N(A; F) \simeq 0.3$; indeed $N(F; A) = N([28, 32]; A) = 0$.

The right-hand column of page 264, lines 36 and 42, should be distribution p_X and $p_X(s)$, respectively.

Equation (38) should be

$$\forall s \in S,\ p_X(s) = \sum_{F \supseteq \{s\}} \frac{1}{|F|} \cdot m(F). \tag{38}$$

Page 266, left-hand column, line 7 should read as follows: measures would not be preserved using Smets' approach.

Equations (51A) and (51B) should read as follows:

$$Pl(F) = \sum_{i=1}^{n} m(A_i) \cdot \Pi(F; A_i) \tag{51A}$$

and

$$Cr(F) = \sum_{i=1}^{n} m(A_i) \cdot N(F; A_i). \tag{51B}$$

Line 48, on the same page and column, should read as follows: the Ai's are supposed to be normalized; $\Pi(F; A_i)$.

Line 19 of the right-hand column on page 266 should read as follows: a variable V whose possible values are restricted.

Page 267, right-hand column, line 38 should read as follows: proportion of elements.

Equation (71) should read as follows:

$$N(p, e) = \inf_{x \in [0,\ 1]} \max(x, 1 - \mu_{CP(p,\ e)}(x)) \tag{71}$$

Equations (73) and (74) should read as follows:

$$\forall s \in S, \quad \pi_e^+(s) = \mu_\tau(\mu_{A \circ P}(s)) \tag{73}$$

where

$$\pi_p = \mu_A \quad \text{and} \quad \forall s,\ \mu_{A \circ P}(s) = \sup_{s' \in S} \min(\mu_A(s), \mu_P(s, s')) \tag{74}$$

Page 269, left-hand column, line 41 should read as follows: considered as interchangeable with the degree $\mu_P(s, s') \cdot \cdot \cdot \cdot$. Line 29, in the right-hand column of the same page should read as follows: $MD(h, e)$ into $1 - \Pi(h, e)$.

The right-hand column of page 270 should be read as follows:

- line 4 which corresponds to the first line of truth table I. . . .
- line 9 corresponds to the second line of truth table II.
- line 32 $\neg p \vee q$ or in terms of the conditional q/p.

The right-hand column, of page 271 should read as follows:

- line 30 *modus ponens* and of *modus tollens* for the implication.
- line 35 "where $a * \rightarrow b = \sup\{t, t \in [0, 1], t * a \leq b\}$ for the implication type (85)."

Page 273, left-hand column: The inequalities $v(p) \geq 1\text{-}A$ and $v(q) \leq A$ apply to the Lukasiewicz, probabilistic, and Dienes implications. Equations (100)–(103) should read as follows:

$$p_Y(t) = \sum_{t \in G_j} \frac{P(G_j/F_j)}{|G_j|} \cdot P(F_j) + \sum_{t \notin G_k} \frac{P(\overline{G}_k/F_k)}{|\overline{G}_k|} \cdot P(F_k) + \frac{P(F_o)}{|T|} \tag{100}$$

$$Pl_Y(G) = \sum_{i=1}^{n} p_i \cdot \Pi(G; G_i) + p_o \tag{101}$$

$$Cr_Y(G) = \sum_{i=1}^{n} p_i \cdot N(G; G_i) \tag{102}$$

$$m(\phi) = 0,\ \forall C \neq \phi,\ m(C) = \frac{\sum_{A_i \cap B_j = C} m_1(A_i) \cdot m_2(B_j)}{\sum_{A_i \cap B_j \neq \phi} m_1(A_i) \cdot m_2(B_j)}. \tag{103}$$

Page 276, left-hand column, line 48 should read $\Sigma_{A_i \cap B_j = \phi} m_1(A_i) \cdot m_2(B_j) > 0$. The second line from the bottom in the right-hand column of the same page should read $p(s) = p_1(s)/P_1(A)$ if $s \in A$ and $p(s) = 0$ if $s \notin$A.

Page 277, left-hand column, first line should read: if m_1 and m_2 are such that, $\exists A$, $m_1(A) = 1 - m_1(S)$. Line 29 of the right-hand column of the same page should read iv) $1 * a = a$, $0 * 0 = 0$.

The correct page numbers for the material cited in [76] are pp. 2898–2905.

The correct title of the material cited in [282] is "Linguistic variables, approximate reasoning and dispositions."

Corrections to "Parallel Game Tree-Search"

T. A. MARSLAND, SENIOR MEMBER, IEEE, AND FRED POPOWICH

In the above paper[1] there is an error in the pseudocode of the PVS algorithm (Fig. 1). The zero-width search and associated test read as follows:

```
alpha:= max(alpha,score);
                                  { zero-width window search }
value:= -pvs(posn[i], -alpha-1, -alpha, depth-1);
IF (value > alpha) THEN           { if "fail-high", re-search }
   IF (value < beta) THEN
      score:= -pvs(posn[i], -beta, -value, depth-1)
   ELSE score:= value;
```

While the above code is very plausible, there are cases when it is wrong. The simplest case arises when every zero-window search returns a value less than alpha. In that case "score" will never be reset, and therefore may not attain its correct value as the largest bound less than alpha. This in turn may lead to searching errors

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[1] T. A. Marsland and F. Popowich, *IEEE Trans. Pattern Anal. Machine Intell.*, vol. PAMI-7, pp. 442–452, July 1985.