

pixels[2][4]. This is performed by the use of the different main types of connectivity as shown in figure 5. But in this case it's necessary to define extra rules, consisting in the order of the pixel visits[3][6]. The chain code is formed by concatenating the number that designates the direction of the next pixel[2]. That is, given a pixel the successive direction from one pixel to the next pixel becomes an element in the final code[1]. This is repeated for each point until the start point is reached when the (closed) shape is completely analyzed[5]. But this process is very dependent on the initial point because different starting points originate different chain codes, so the goal is to make this chain code invariant to the initial point[2]. The process consists in actually looking to the chain code as an integer, and making the shift position operation[4]. Although our chain code with this step became invariant to the initial point, but it's not invariant to the rotation of the object[1][5].

IV. EXPERIMENTAL RESULTS

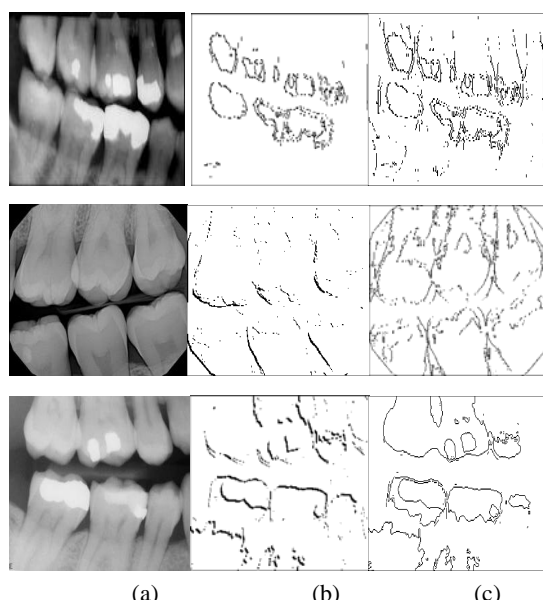


Fig. 6. Dental X-ray image edge detection, (a) original images, (b) using Roberts Technique, (c) using Fuzzy Logic approach.

V. CONCLUSION

Fuzzy logic represents a good mathematical framework to deal with uncertainty of information. Fuzzy image processing is the collection of all approaches that understand, represent and process the images, their segments and features as fuzzy sets. The representation and processing depend on the selected fuzzy technique and on the problem to be solved.

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