Legal Engineering and Its Natural Language Processing

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Abstract. Our society is regulated by a lot of laws which are related mutually. When we view a society as a system, laws can be viewed as the specifications for the society. Such a system-oriented aspect of laws have not been studied well so far. In the upcoming e-Society, laws have more important roles in order to achieve a trustworthy society and we expect a methodology which treats a system-oriented aspect of laws. Legal Engineering is the new field that studies the methodology and applies information science, software engineering and artificial intelligence to laws in order to support legislation and to implement laws using computers. So far, as studies on Legal Engineering, Shimazu group of JAIST proposed the logical structure model of law paragraphs, the coreference model of law texts, the editing model of law texts and so on, and implemented their models. Tojo group of JAIST verified whether several related ordinances of Toyama prefecture in Japan contains contradictions or not. Ochimizu group of JAIST studied the model for designing a law-implementation system and proposed the accountability model for the law-implementation system. Futatsugi group of JAIST proposed the formal description and the verification method of legal domains. As laws are written in natural language, natural language processing is essential for Legal Engineering. In this talk, after the aim, the approach and the problems of Legal Engineering are introduced, studies on natural language processing for Legal Engineering are introduced.

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