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A Selective Learning Approach for Evaluating User's Actions on Multi-Player Games with Autonomously Supporting Agents (研究の進捗発表)

メタデータ	言語: English 出版者: 公開日: 2020-05-13 キーワード (Ja): キーワード (En): 作成者: Fujita, Mashio, Fukuta, Naoki メールアドレス: 所属:
URL	http://hdl.handle.net/10297/00027465

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A standard Q-learning approach finds a policy what action agent will take in some enviroment. Even when a Q-learning process converges, it may not learn the whole policies especially the situations after taking non-optimal actions. In multi-player game enviroments, since sometimes agents join on behalf of other players, agents cannot always get optimal actions for the player's confortable game play. Furthermore, agents can choose possible actions depending on the player's skills, and agents evaluate the users' actions to estimate the users' skill levels. To do this, agents will have well-learned Q-values for evaluating user's actions even after taking non-optimal actions. In this reseach, selective Q-learning has been applied to make Q-values usable even after the scenarios of taking non-optimal actions.