

INTISARI

***MULTITASK AUXILIARY LEARNING* UNTUK PREDIKSI DIMENSI *APPRAISAL* PADA KLASIFIKASI EMOSI BERBASIS TEKS**

Oleh

Petra Febrianto Liasta
22/508726/PPA/06444

Analisis emosi berbasis teks dapat dikelompokkan sebagai masalah klasifikasi teks. Analisis emosi bermanfaat dalam interaksi sosial. Seiring perkembangan teori emosi, analisis emosi menggunakan salah satu teori evaluasi emosi, yakni teori *appraisal* dalam Psikologi. Dalam beberapa penelitian, penggunaan *appraisal* dimanfaatkan untuk meningkatkan performa klasifikasi emosi.

Salah satu metode yang menghasilkan performa terbaik untuk prediksi *appraisal* adalah metode *fine-tuning*. Di lain sisi, beberapa permasalahan dalam *Natural Language Processing*, performa *task* terkait dapat ditingkatkan dalam kerangka *Multitask Learning*, khususnya *Multitask Auxiliary Learning* yang menggunakan *auxiliary task* untuk meningkatkan performa *task* utama.

Penelitian ini bertujuan untuk mengetahui pengaruh *Multitask Auxiliary Learning* terhadap model prediksi dimensi *appraisal*. Eksperimen dilakukan dengan mempertimbangkan 7 jenis pembobotan *loss*, 3 jenis *auxiliary task*, dan konfigurasi ukuran dataset *auxiliary task*. Dari berbagai varian, hasil evaluasi menunjukkan *Multitask Auxiliary Learning* memberi peningkatan performa secara signifikansi statistik pada sebuah varian model. Namun, evaluasi lebih lanjut untuk klasifikasi emosi menunjukkan bahwa peningkatan signifikansi statistik prediksi *appraisal* dari varian *Multitask Auxiliary Learning* belum mampu meningkatkan model klasifikasi emosi secara signifikansi statistik.

Kata Kunci: *Multitask Auxiliary Learning*, Dimensi *Appraisal*, Analisis Emosi, Pembobotan *Loss*.

ABSTRACT

MULTITASK AUXILIARY LEARNING FOR PREDICTION OF APPRAISAL DIMENSIONS IN TEXT-BASED EMOTION ANALYSIS

by

Petra Febrianto Liasta
22/508726/PPA/06444

Text-based emotion analysis can be categorised as a classification problem. Emotion analysis has various benefits in social interactions. Along with the development of emotional theory, emotion analysis uses one of the emotional evaluation theories, namely appraisal theory in psychology. Appraisal theory has been used in several studies to improve emotion classification.

Recently, the best performance for appraisal predictions was performed by fine-tuning. On the other hand, several studies in Natural Language Processing have shown that multitask learning framework, especially Multitask Auxiliary Learning, could improve a single task, which is called the main task, trained together with several tasks, namely auxiliary tasks.

This study aims to explore the effect of Multitask Auxiliary Learning on the appraisal dimension prediction model. The experiment was conducted by considering 7 types of loss weightings, 3 types of auxiliary tasks, and the size configuration of the auxiliary task dataset. The outcome showed that Multitask Auxiliary Learning succeeded in improving performance with statistical significance, only on a single model among variants. However, further evaluation for emotion classification showed that the increase in the statistical significance appraisal predictions from the Multitask Auxiliary Learning variant did not improve the emotion classification model statistically.

Keywords: Multitask Auxiliary Learning, Appraisal Dimension, Emotion Analysis, Loss Weighting.