

Automated Genre Classification for Gaming Videos

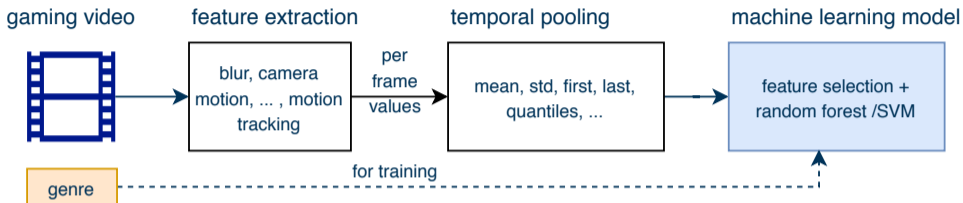
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- ▶ increase in streaming of gaming videos, e.g.
 - tournaments [10], Twitch, Youtube Gaming
- ▶ different challenges to stream gaming videos [2, 17]
 - live streaming, CGI content, motion patterns, no high quality reference video, ...
- ▶ SoA for
 - quality prediction [6, 12, 5, 3, 16, 12, 11], datasets [4], standardization [8, 9]
- ▶ properties of gaming videos → **genre specific** [1, 15]
 - automated gaming genre classification

Our Approach

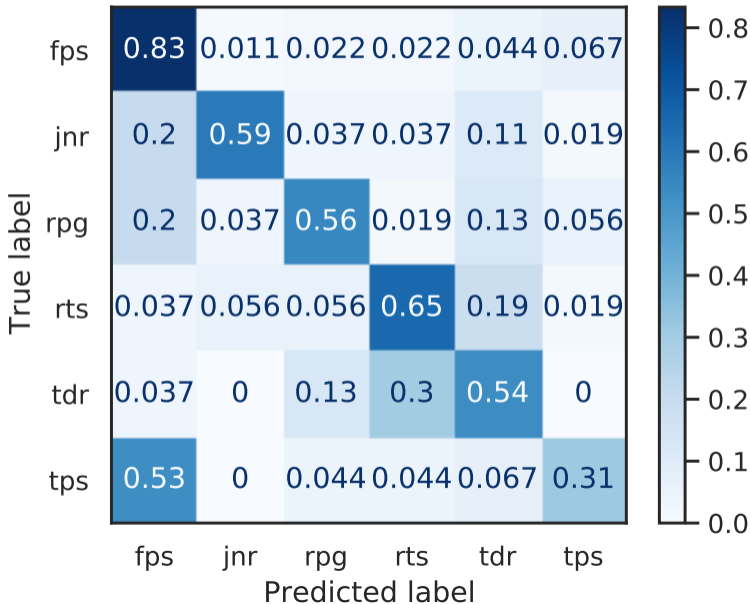


- ▶ 10 features: image, motion, game specific (new)
- ▶ temporal feature pooling [6, 7]
- ▶ several ML algorithms applicable, e.g. RF (best), GBC, SVM, KNN
- ▶ 6 target genres: fps, jnr, rpg, rts, tdr, tps

genre		#games	#streamers
first-person shooter	fps	10	30
jump'n run	jnr	6	18
adventure/roleplay	rpg	6	18
real-time strategy	rts	6	18
top-down roleplay	tdr	6	18
third-person shooter	tps	5	15

- ▶ 351 videos downloaded from Twitch (full-hd, hd)
- ▶ selection: viewer stats Twitch [14, 13], genres [1]

Evaluation – 10-fold-crossvalidation – best RF model



Conclusion, Summary and Future Work

- ▶ overview of features and pipeline for gaming genre prediction
 - lightweight features (**fast**)
 - evaluation of ml algorithms
- ▶ best: random-forest- and gradient boosting-tree-based-models
- ▶ open and next steps:
 - encoding optimization
 - include genre in quality models

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Thank you for your attention

..... are there any questions?

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