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https://smartdata.polito.it/category/smarttalks/

Alkis Koudounas

Alkis Koudounas is a second-year Ph.D student in Computer Engineering at Politecnico di Torino, where he also got his master's degree in the same field. Alkis has internship experience on object detection and pose estimation with Thales Alenia Space in Turin and in optimization algorithms with TUAT in Tokyo. His current research focuses on spoken language understanding, speech processing and explainable AI in a joint project with Amazon Alexa AI. His interest also lies in the development of resources for under-represented languages. He serves as Italian Language Ambassador for the AYA Cohere4AI project.

Exploring Subgroup Performance in End-to-End Speech Models

ABSTRACT

Enhancing end-to-end spoken language understanding (E2E SLU) models performance, particularly for voice assistants, poses challenges in interpretability and transparency. Our research, in collaboration with Amazon Alexa AI, investigates the performance of E2E SLU models. We utilize advanced model-agnostic techniques to identify and characterize specific data subgroups that demonstrate anomalous behavior, thus enhancing model interpretability. Our approach identifies suboptimal performance in specific subgroups across several models, datasets, and tasks, aiding in (i) model validation and debugging, and (ii) model bias mitigation.

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