

Balzer, R., Fikes, R., Fox, M., McDermott, J., & Soloway, E. (1990, August). AI and Software Engineering: Will the twain ever meet?. In AAAI (pp. 1123-1125).

This session explored the reasons for the lack of impact in four important areas in which AI has been expected to significantly affect real world Software Engineering. The session approached the failures of AI in software engineering, looking at the matter through a common cause- reliance on isolationist technology and approaches, rather than upon creating additive technology and approaches that can be integrated with other existing capabilities.

The isolationism has been manifested in several areas:

1. Idiosyncratic Language
2. Idiosyncratic Environment
3. Idiosyncratic Hardware
4. Large Footprint
5. Weak Interoperability
6. No Encapsulation
7. Egocentric mentality

In essence, the market has rejected the isolationist and egocentric approach to implementing AI in software engineering, and that the whole system should be developed and executed in generalised workstations and PCs.

Zhong, Z., Guo, J., Yang, W., Xie, T., Lou, J. G., Liu, T., & Zhang, D. (2018, June). Generating Regular Expressions from Natural Language Specifications: Are We There Yet?. In Workshops at the Thirty-Second AAAI Conference on Artificial Intelligence.

Recent state-of-the-art approaches automatically generate regular expressions from natural language specifications. Given that these approaches use only synthetic data in both training datasets and validation/test datasets, a natural question arises: are these approaches effective to address various real-world situations? To explore this question, in this paper, a characteristic study on comparing two synthetic datasets used by the recent research and a real-world dataset collected from the Internet, and an experimental study on applying a state-of-the-art approach on the real-world dataset is conducted. The study results suggest the existence of distinct characteristics between the synthetic datasets and the real-world dataset, and the state-of-the-art approach (based on a model trained from a synthetic dataset) achieves extremely low effectiveness when evaluated on real-world data, much lower than the effectiveness when evaluated on the synthetic dataset.