

Formal Methods in the Wild: Trains, Planes, & Automobile

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Abstract. Why is it that carefully researched and well-formulated theoretical and methodological constructs don't make their way into industrial applications? This keynote speech takes a look at my personal experiences in both the aviation and automotive fields to suggest what can be done about it. I will first try to explain why engineers (and even industry scientists) tend not to use the kind of methods and tools that emerge from academic settings while working on actual products, and then show some of the consequences of not using such methods. I will end with a few vignettes from my own trials and tribulations in applying formal methods in engineering design processes as well as some of the future prospects, for both academia and industry, as human-automation systems become more demanding and complex.