



University of Stuttgart
Germany



GS-IMTR

Graduate School
Intelligent Methods for Test & Reliability

ADVANTEST[®]



Self-Learning Tuning for Post-Silicon Validation

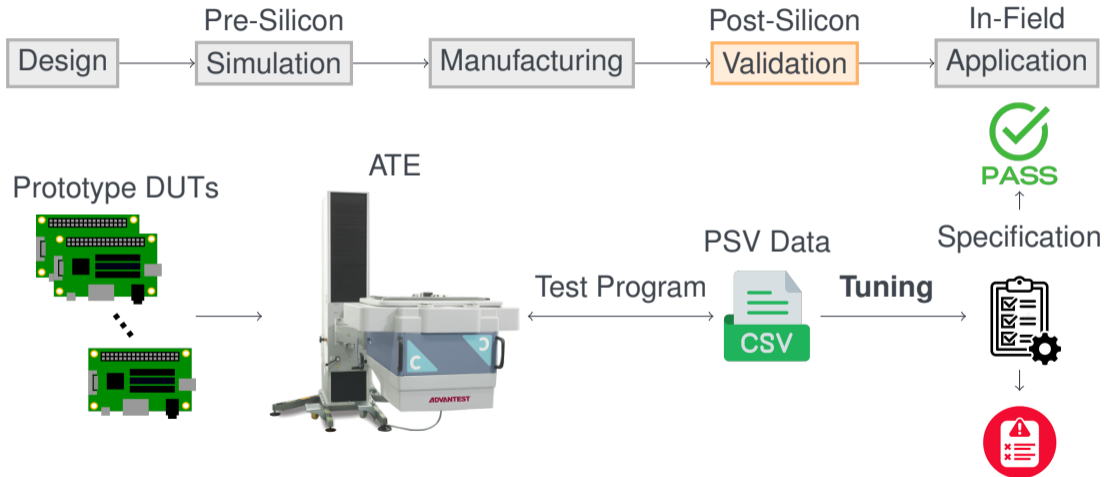
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Peter
Domanski

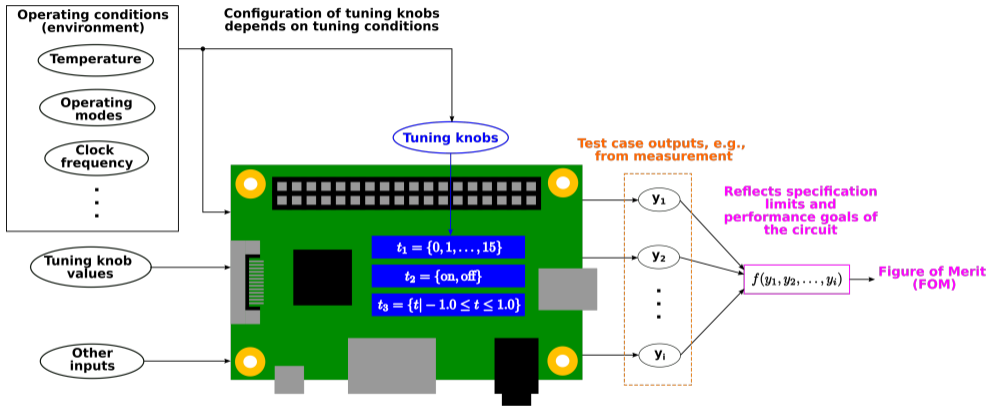
GRADUATE SCHOOL
INTELLIGENT METHODS FOR TEST & RELIABILITY

Post-Silicon Validation (PSV)



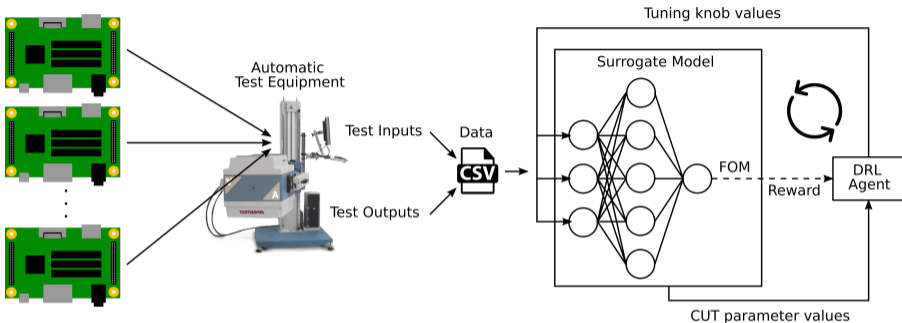
→ **Idea:** Get **Tuning Law** from PSV data (tuning as learning problem)

Performance Tuning in PSV



- Output values depend on input values and **configuration of tuning knobs**
- **Goal:** Find tuning knobs that maximize FOM → mixed-type optimization task

Learn to Tune



- Automatically learn tuning strategies using
 - Surrogate Modeling → Digital Twin of DUT (data-driven behavioral model)
 - Deep Reinforcement Learning → DNN-based prediction of tuning knobs
- Improve efficiency and scalability in tuning
- Reduce manual efforts and necessary expert knowledge



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Intelligent Embedded
Systems for Test and Reliability

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Thank You!



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