# Resolving Over-constrained Probabilistic Temporal Problems through Chance Constraint Relaxation

***Repair*** *infeasible chance-constrained temporal problems through making* ***trade-offs*** *between* ***risk taken*** *and* ***temporal requirements****.*

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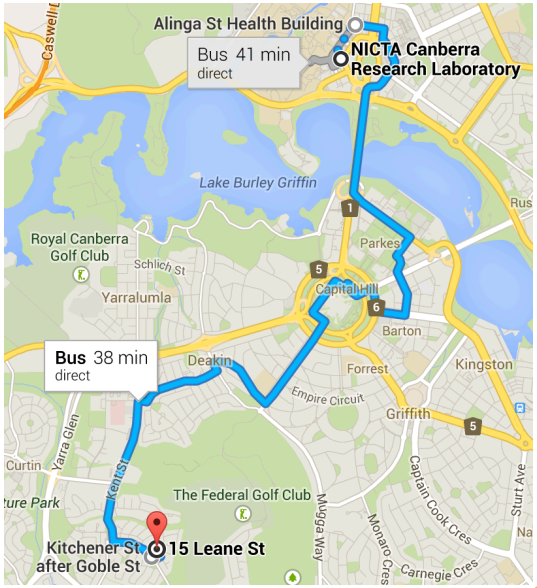
MIT COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE LABORATORY

MERS
Model-based Embedded & Robotic Systems group

# It is 6pm now and I am leaving office for home…

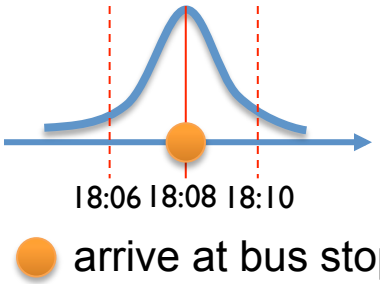
## Arrive in 40 mins.




**Options**

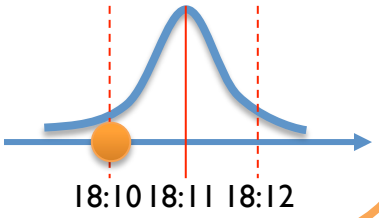
- Bus **#3** at **18:08** (σ=2).

**8** mins walk to stop,
**24** mins on bus, and
**3** mins walk to home.




- Bus **#934** at **18:11** (σ=1).

**10** mins walk to stop,
**27** mins on bus, and
**3** mins walk to home.




**Suggestions**

*"You have **85%** chance of catching Bus #934 and arrive home **3 minutes late**."*

*"Or, take Bus #3 and arrive home on time, but **taking 50% risk** of missing the bus, if it arrives early."*