

Markov Chain abstraction of Communications Channels

Networked control systems rely on the transmission of information through a communications channel. The time variability of wireless channels consequently influences the probability of packet reception. In case a packet is lost, the missing information can be critical to the fulfillment of the control task or its stability. Therefore, it becomes necessary to understand how this probability of reception changes in time, and given the randomness of the evolution of the wireless channel, how does this affect the control objective.

For this position, the candidate is required to design a channel abstraction of packet losses by using Markov chains, provided the probability distribution of the channel.

The skills expected from the candidate are:

- Good knowledge in MATLAB programming.
- Good understanding of signal processing techniques and stochastic systems
- Well-founded understanding of communications theory, communications systems and probability theory
- Ability to work independently
- Excellent communication skills in English, both spoken and written.

In case this position appeals you, please send your CV, score sheet and a description of relevant projects or lectures that you have engaged in, to:

Andrés Villamil, M.Sc.

Vodafone Chair Mobile Communications Systems

TU Dresden

andres.villamil@tu-dresden.de