Wi-Fi based non-invasive detection of indoor wandering using LSTM model

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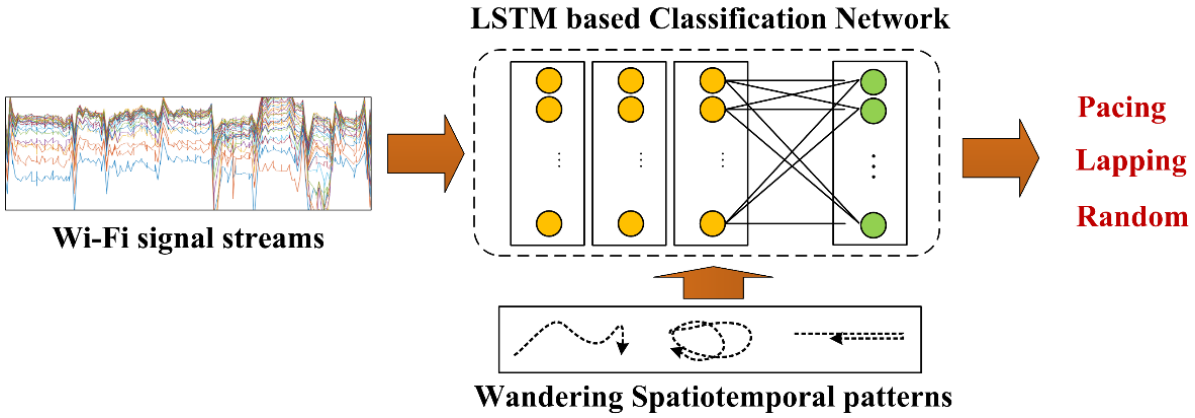
Problems & ideas

- Reliable non-invasive detection of indoor wandering with Wi-Fi signal streams
  - Continuously monitoring long-term indoor movement routinely
  - Reliably classifying wandering movement with sensor readings
- Ideas: LSTM-based classification of variable-size Wi-Fi signal Strems
  - Dividing Wi-Fi signal stream into segments
  - Constructing LSTM based deep classification model
  - Classifying Wi-Fi signal segments into wangdering categories



Main Contributions

- **Experimental results of evaluation metrics for the fixed-size datasets.**

Dataset	*Prec*	*Rec*	*F*-1	*Acc*
VD_P	0.9835	0.9649	**0.9741**	**0.9286**
VD_R	0.9077	**0.9819**	0.9433	
VD_L	**0.9941**	0.9436	0.9682	
Average	*0.9618*	*0.9634*	*0.9619*	

- **The confusion matrixes obtained by the LSTM based classification model on the testing data.**