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Thesis topic "On-device fall detection from smartwatch data", MSc Computer Engineering student

Dear Professor Valenti,

I am a second-year student in the MSc in Computer Engineering, and I would like to apply for the thesis topic on on-device fall detection that you posted on the department board in October.

I read your 2025 paper on the same problem. The model was tested on falls simulated by young volunteers in a lab, and I wonder how it would handle near-falls and the slower movements of older people, which may be where false alarms come from in practice.

My background fits the embedded side of the topic. In my Embedded Machine Learning course project I deployed a gesture classifier on an nRF52 board; quantising it to 8 bits kept 96% of its accuracy and cut inference time from 41 ms to 9 ms. My current average is 28.4/30, and I hold a BSc in Computer Engineering from Damascus University (2023). If the topic is still open, I would like to start by testing whether adding near-falls to the training data reduces false alarms.

I could start in February 2027. My CV and transcript are attached.

Is the topic still available, and if so, could I come to your office hours to discuss it?

Kind regards,

Yara Saad

WRITTEN WITH HUMANPROSE