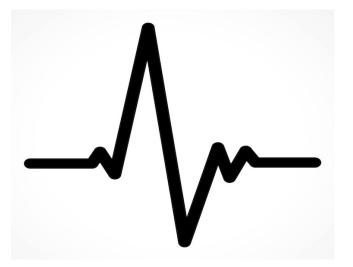# Assignment 2 Introduction

Roel Jordans

Problem

- Helping architecture design decisions

- Assume we have an application

  - ECG (heart rate detection)

- We want to construct a new processor to run it efficiently

  - Let's use a VLIW architecture

Analyzing code

- Work at the IR level

  - We don't know much yet about the architecture

- Schedule the IR code to find the latency-ILP tradeoff of basic blocks

  - Uses the list-scheduling algorithm explained last week

How does this work

- We'll implement it as an external analysis pass

  - Keeps our code separately from the compiler

  - Run through the *opt* tool

    - LLVM's optimization layer tool (like *llc*)
    - `opt -load pass.so -pass InputIR.ll -S`

Starting point

- You'll get a template project and description to start with

  - Part 1: running optimizations and get ASAP/ALAP intervals for BB operations

  - Part 2: basic list scheduling algorithm implementation to show ILP tradeoff

Grading

- Quiz again

- Code submission through the quiz

  - Code counts for 30% of assignment grade

Deadline

March 10th 23:39 CET