

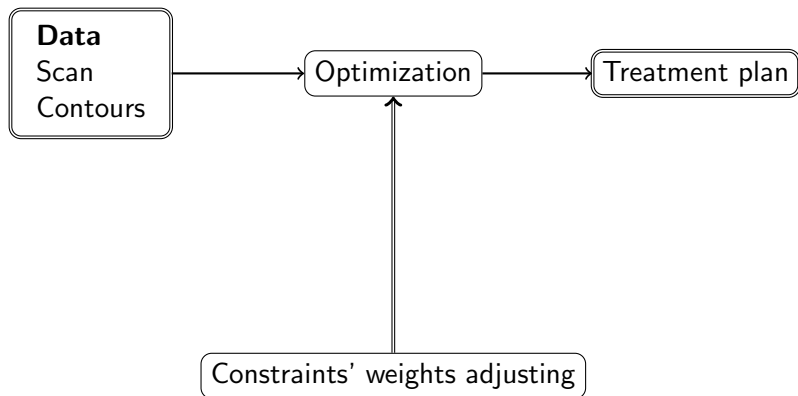
Mid-PhD Defense

Paul Dubois

TheraPanacea
MICS, CentraleSupélec
Institut du Cancer de Montpellier

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Automatic Dose Optimization for Radiotherapy



Problem Formulation

IMRT

Bixel values:

$$x_{i,j}^{\theta} \geq 0, \text{ for } \theta \in \Theta \text{ and } 1 \leq i, j \leq 20^1$$

usually concatenated to a single bixels-value vector x .

Dose calculation:

$$y = Lx \text{ with } L \text{ dose-influence (DI) matrix}$$

¹20x20 is a typical bixel discretization