

DIPLOMA

# ACADEMIC EXCELLENCE

The Pedagogical Council of Instituto Superior Técnico awards this diploma to

**RAFAEL SALVADOR PINHEIRO MACHADO SARGENTO**

in recognition of their exceptional curricular performance in **Licenciatura em Engenharia Informática e de Computadores (Taguspark)**, in the academic year **2023/2024**.

Instituto Superior Técnico, May 23, 2025



Miguel Cache Teixeira  
President of the Pedagogical Council of Instituto Superior Técnico

$$\vec{v} = \frac{d\vec{L}}{dt}$$

$$\vec{F} = \frac{d\vec{p}}{dt}$$

$$\vec{F}_G = -G_N \frac{m_1 m_2}{r^2} \vec{e}_r$$

$$u(\nu, T) = \frac{2h\nu^3}{c^2} \frac{1}{\exp\left(\frac{h\nu}{k_B T}\right) - 1} \quad \omega_0 = \sqrt{\frac{k}{m}}$$

$$\vec{E} = \frac{1}{4\pi\epsilon_0} \frac{Q}{r^2} \vec{e}_r$$

$$d\vec{B} = \frac{\mu_0 I c}{4\pi} \dots$$

$$\omega_0 = \sqrt{\frac{g}{l}}$$

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$$\vec{F} =$$

$$d\vec{B} = \frac{\mu_0 I d\vec{l} \times \vec{e}_r}{4\pi r^2}$$

$$\vec{F} = q(\vec{E} + \vec{v} \times \vec{B})$$

$$+ \frac{1}{2} P$$

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$$\frac{\partial^2 \phi}{\partial t^2} = v^2 \frac{\partial^2 \phi}{\partial x^2}$$

$$(\vec{D}_2 - \vec{D}_1) \cdot \vec{n} = \sigma$$

$$PV = nRT$$

$$\vec{D} = \epsilon \vec{E}$$

$$\vec{H} = \frac{1}{\mu} \vec{B}$$

$$\omega_0 = \sqrt{\frac{k}{m}}$$

$$\Delta t' = \frac{\Delta t}{\sqrt{1 - \frac{v^2}{c^2}}}$$

$$P = \epsilon \sigma A T^4$$

$$\Delta x' =$$

$$E = h\nu$$

$$\gamma = \frac{c_p}{c_v} = 1 + \frac{R}{c_v}$$

$$\begin{cases} x' = \gamma(x - \beta ct) \\ y' = y \\ z' = z \\ ct' = \gamma(ct - \beta x) \end{cases}$$

$$E =$$

$$i\hbar \frac{\partial \psi}{\partial t} = \left[ -\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2} + V(x,t) \right] \psi$$

$$\eta_c = 1 - \frac{T_F}{T}$$