**Title**

Identifying Skin Cancer: Detection Using CNNs

**Group Members**

Pedro Silva – nº 64926  
Pedro Diz – nº 64852

**What problem will be investigated, and why is it interesting?**

Portugal has a hot climate and extensive beach culture, leading to high sun exposure, which significantly increases the risk of skin cancer (<https://www.ipolisboa.min-saude.pt/noticias/cancro-da-pele-e-dos-mais-frequentes-em-portugal/>).

Early detection is crucial, as it greatly improves the chances of successful treatment while reducing long-term damage and increasing survival rates (<https://www.cas.org/resources/cas-insights/how-biomarkers-unlock-faster-cancer-detection-improving>).

**What sources will be reviewed to provide context and background?**

We will review medical research papers and scientific literature on the application of deep learning, specifically convolutional neural networks (CNNs).

**What data will be used? If new data is collected, how will it be gathered?**

We will use large publicly available image datasets, such as the ISIC Archive and HAM10000datasets.

**What method or algorithm will be used?**

The proposed method will be based on convolutional neural networks (CNNs) for binary image classification (benign vs malignant).

**If existing implementations are available, will they be utilized, and how?**

Existing implementations from popular frameworks such as PyTorch or TensorFlow can be used. The process will involve loading pre-trained CNN architectures and fine-tuning the model using the datasets mentioned above.