# A Reinforcement Learning (RL) Model for AI-based Decision Support in Oral Cancer

**Project Description:**

Compared to clinical experts, artificial intelligence (AI)-based diagnostic methods have demonstrated similar or better accuracy in various areas of diagnostic imaging. As a result, AI-based decision-support tools are expected to facilitate access to expert-level image-based diagnostic accuracy. Hence, the aim of the project is to investigate whether human preferences hold the potential to improve diagnostic artificial intelligence (AI)-based decision support using oral cancer diagnosis as a use case. In addition, we will compare supervised learning with the reinforcement learning to quantify the importance of the designed reward function.

**Duties/Activities:**

The Intern will understand the scope of the project and its main components. He/she will work on the existing dataset and code and gets supervision from the mentor in understanding the code. Then, each intern will be responsible to develop and work on a specific component. This could include design the reward function, run and fine-tune some deep learning architectures, etc.

**Required Skills:**

Excellent Python programming skills are required. Understand the basic machine learning / deep leaning architectures is required.

**Learning Opportunities:**

The intern will have opportunity to work with scientists and software engineers on promising research problems. In addition, it is great opportunity to participate in solving real-world health problems.

**Expected Team Size:** *2-3*

**Mentors**

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