Helixco Cavity

Jaewoong Lee

2020-08-24

Contents

List of Tables

List of Figures

1 Introduction

1.1 Dental Cavity

Dental cavity is one of the most common bacterial infections in humans. *Streptococcus mutans* in the acquired enamel pellicle have a main role in human dental cavity (Loesche, 1986; Alaluusua & Renkonen, 1983).

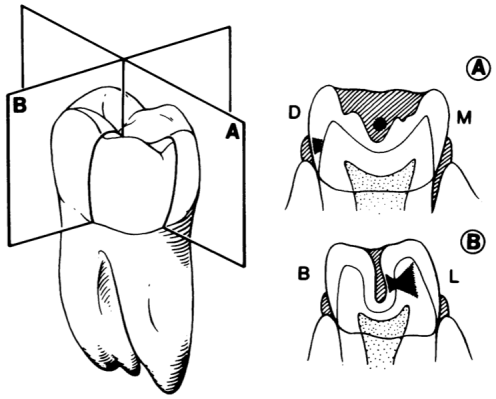

Figure 1: Saggital and cross-sectional sections through a permanent molar (Loesche, 1986)

1.2 Microbiome

2 Materials

2.1 Microbiome analysis

3 Methods

3.1 Docker

Docker is light-weight linux containers for consistent development and deployment (Merkel, 2014).

3.2 QIIME 2

QIIME 2 is a powerful, extensible, and decentralized microbiome analysis package with a focus on data and analysis transparency.

3.3 Scikit-learn

Scikit-learn is a simple and efficient tools for predictive data analysis (Pedregosa et al., 2011; Buitinck et al., 2013).

4 Results

5 Discussion

References

Alaluusua, S., & Renkonen, O.-V. (1983). Streptococcus mutans establishment and dental caries experience in children from 2 to 4 years old. *European Journal of Oral Sciences*, *91*(6), 453–457.

Buitinck, L., Louppe, G., Blondel, M., Pedregosa, F., Mueller, A., Grisel, O., … Varoquaux, G. (2013). API design for machine learning software: experiences from the scikit-learn project. In *Ecml pkdd workshop: Languages for data mining and machine learning* (pp. 108–122).

Loesche, W. J. (1986). Role of streptococcus mutans in human dental decay. *Microbiological reviews*, *50*(4), 353.

Merkel, D. (2014). Docker: lightweight linux containers for consistent development and deployment. *Linux journal*, *2014*(239), 2.

Pedregosa, F., Varoquaux, G., Gramfort, A., Michel, V., Thirion, B., Grisel, O., ... Duchesnay, E. (2011). Scikit-learn: Machine learning in Python. *Journal of Machine Learning Research*, *12*, 2825–2830.