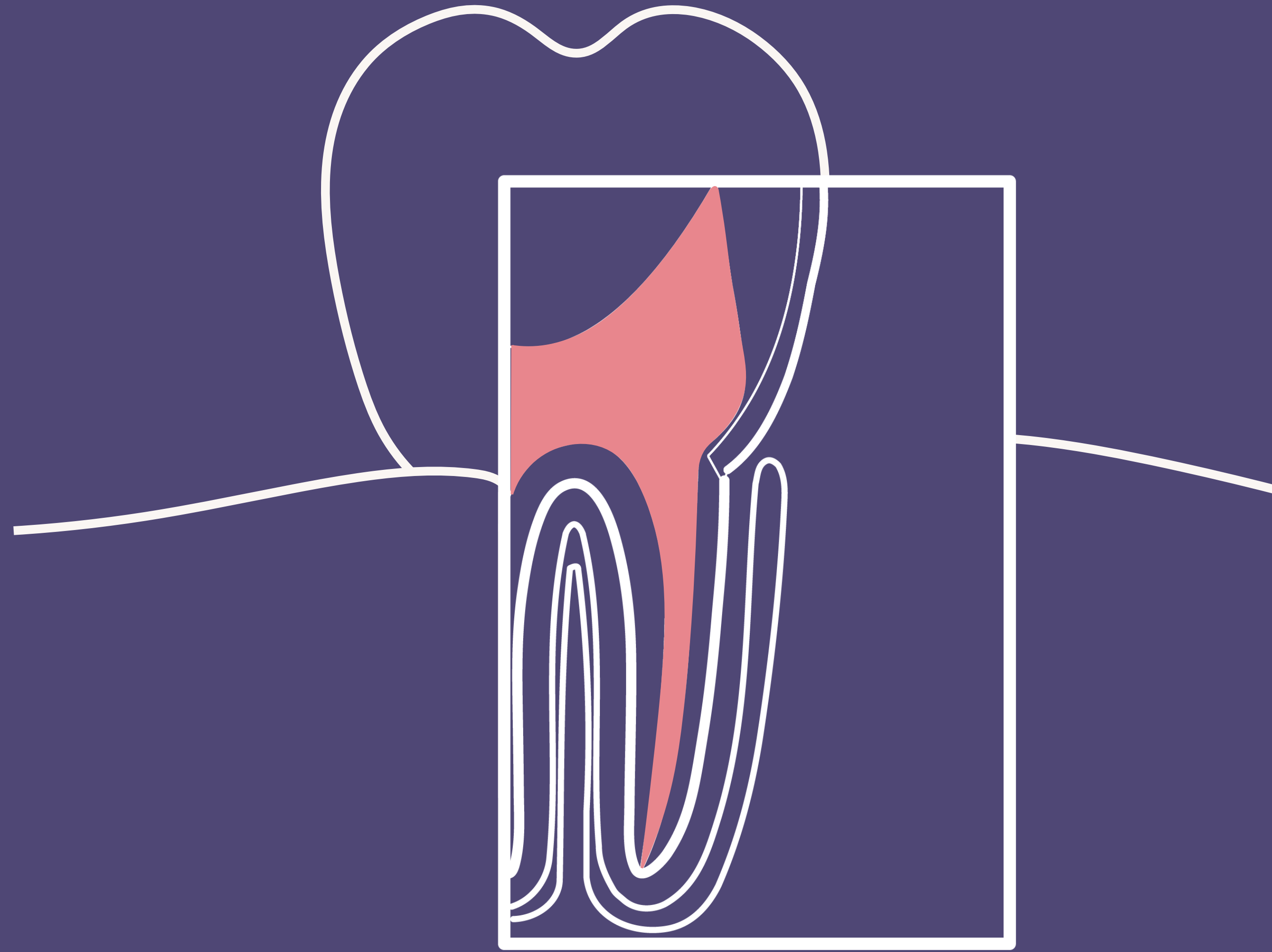


Dr Tedy Karteva

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&

The Endodontic Subtopic Group



Commerce



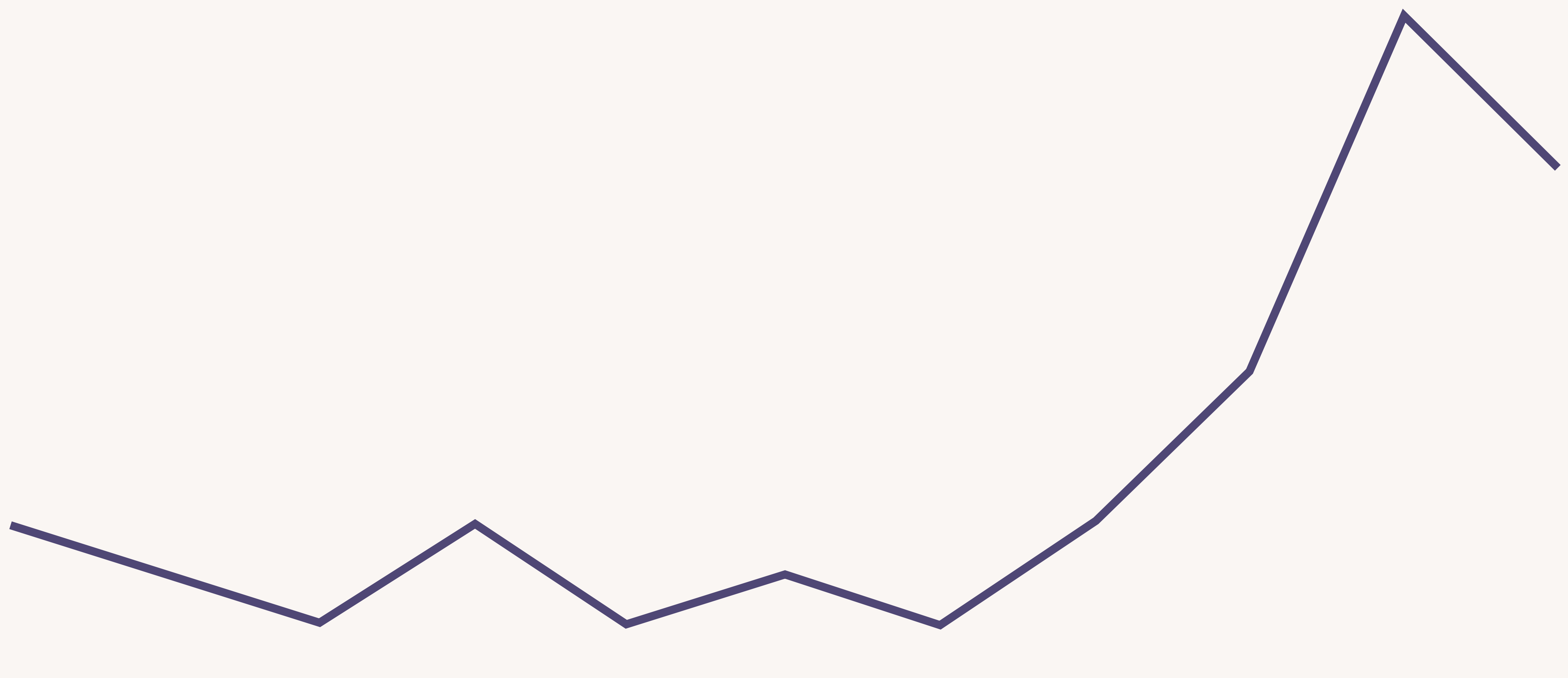
Science



12

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2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022



**Pathology
Detection**

Periapical Radiolucencies

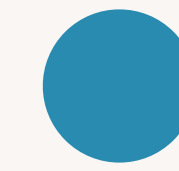
Acute pulpitis



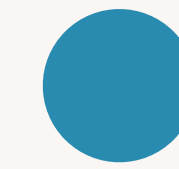
**Morphology
Analysis**

**Detection of
Vertical Root
Fractures**

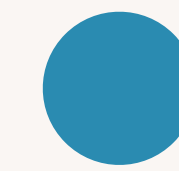
Prognosis Predictions



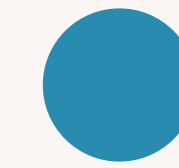
Apical foramen
localisation



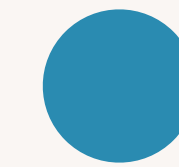
Working length
determination



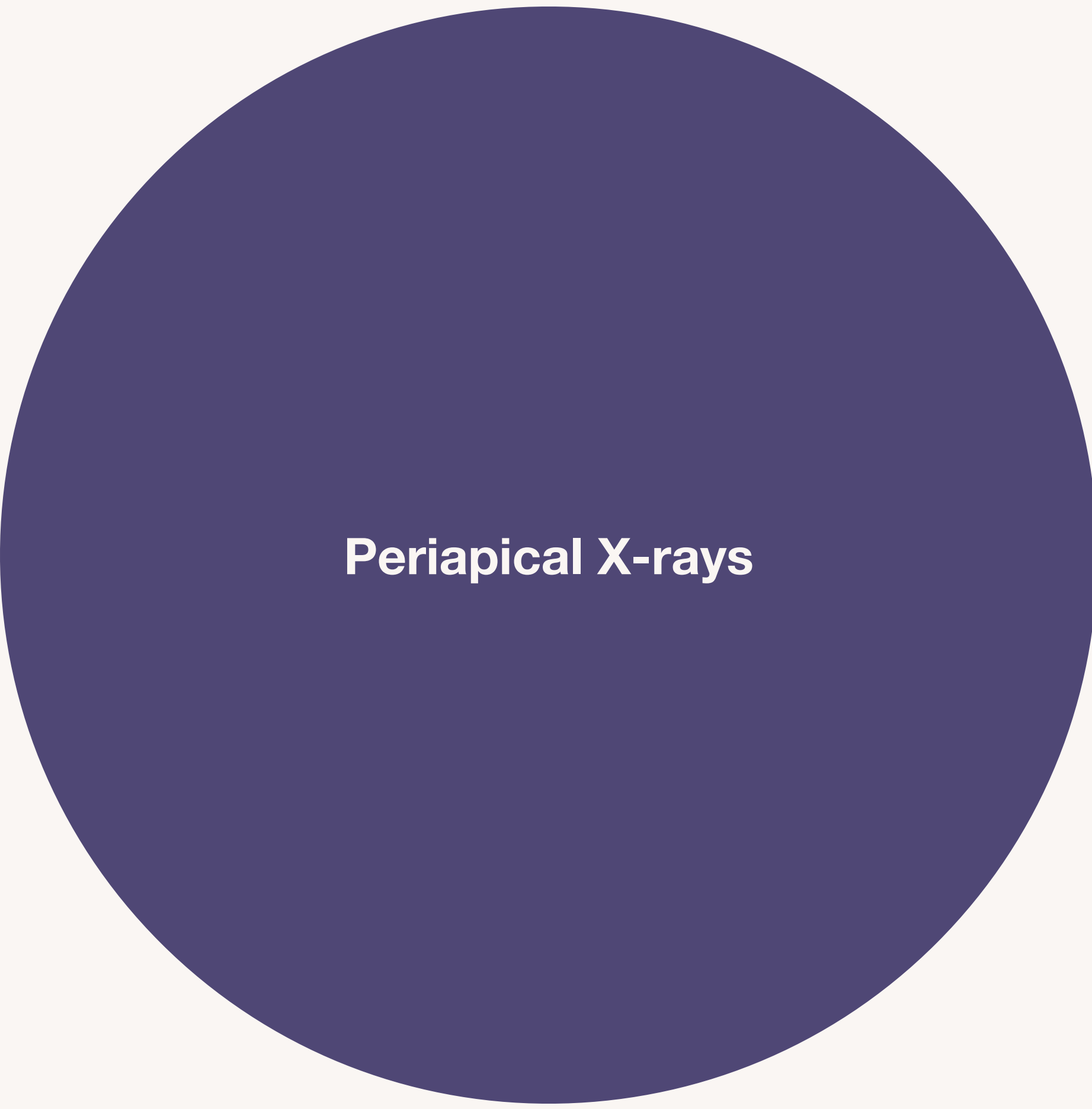
Generalizability
Assessment



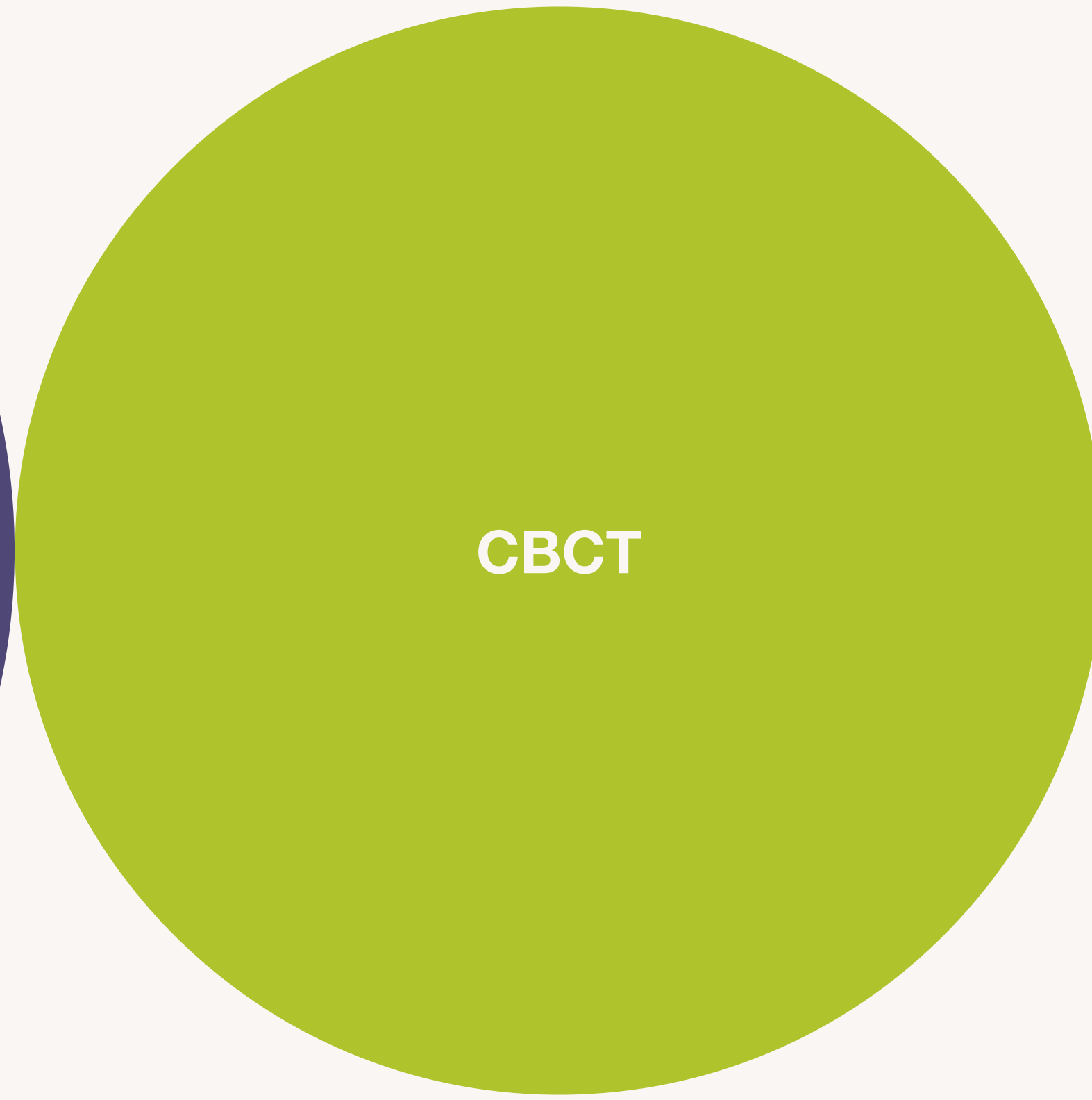
Volume
segmentation



The effect of AI on
dentists'
performance



Periapical X-rays



CBCT

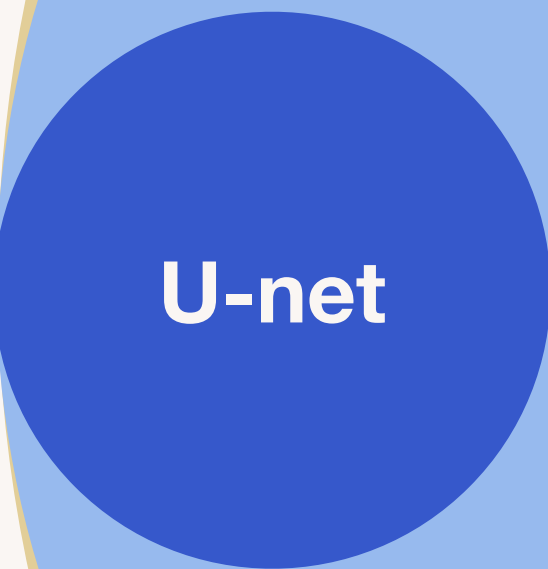
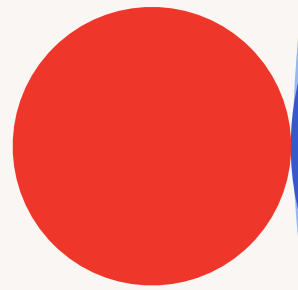


OPG

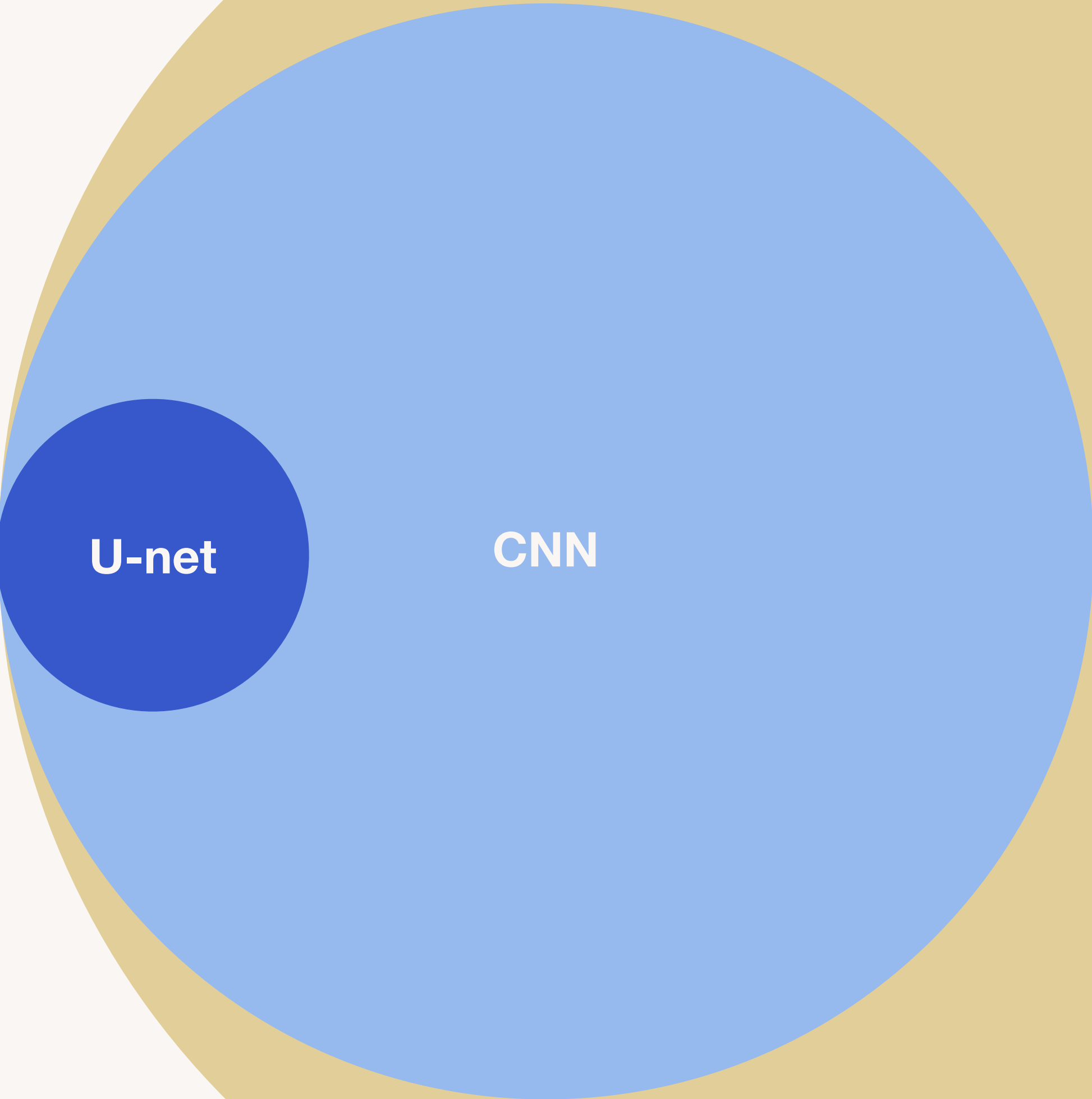


**Categorical
Data**

GBM/RF



U-net



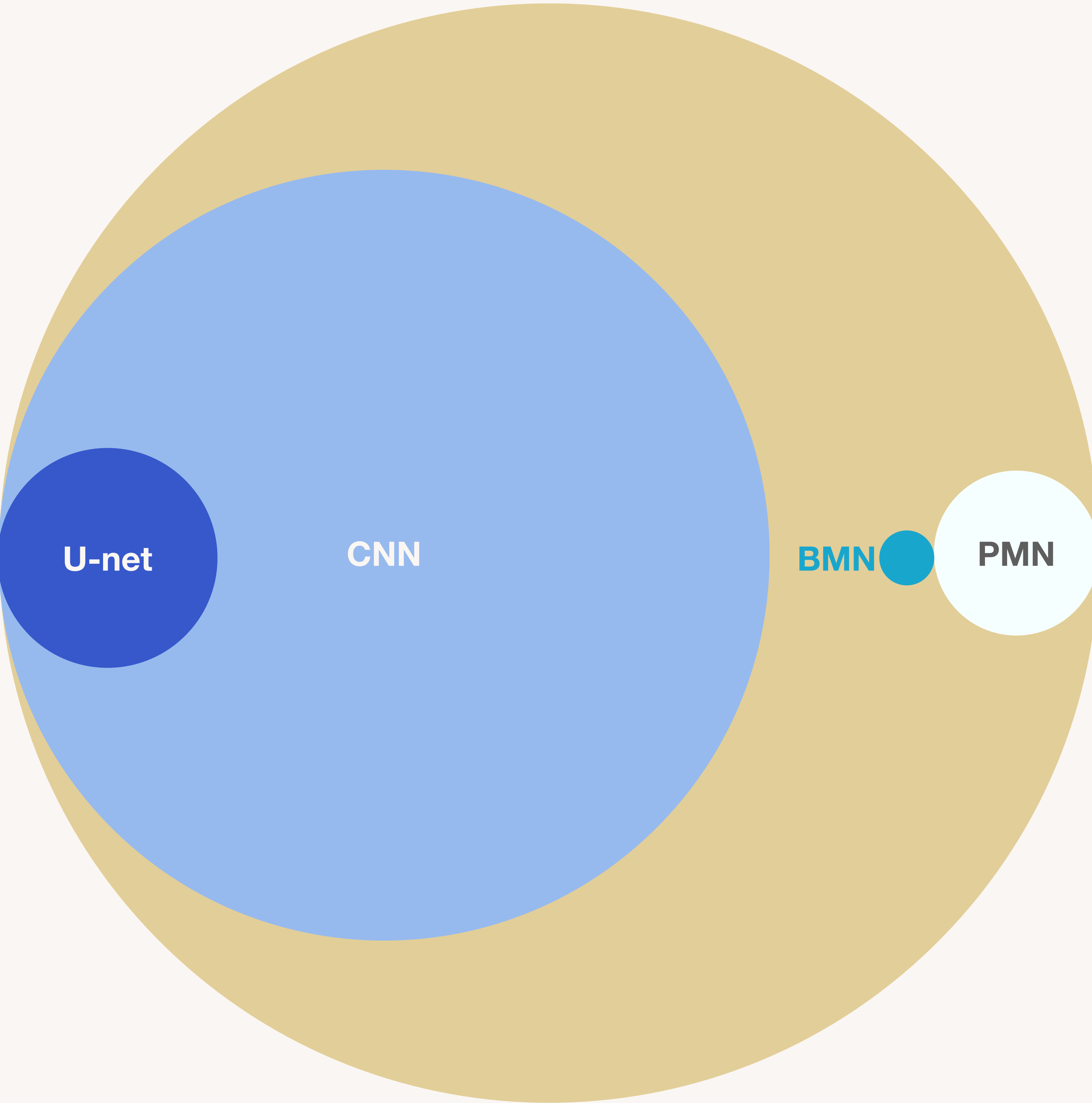
CNN

BMN



PMN


































ANN

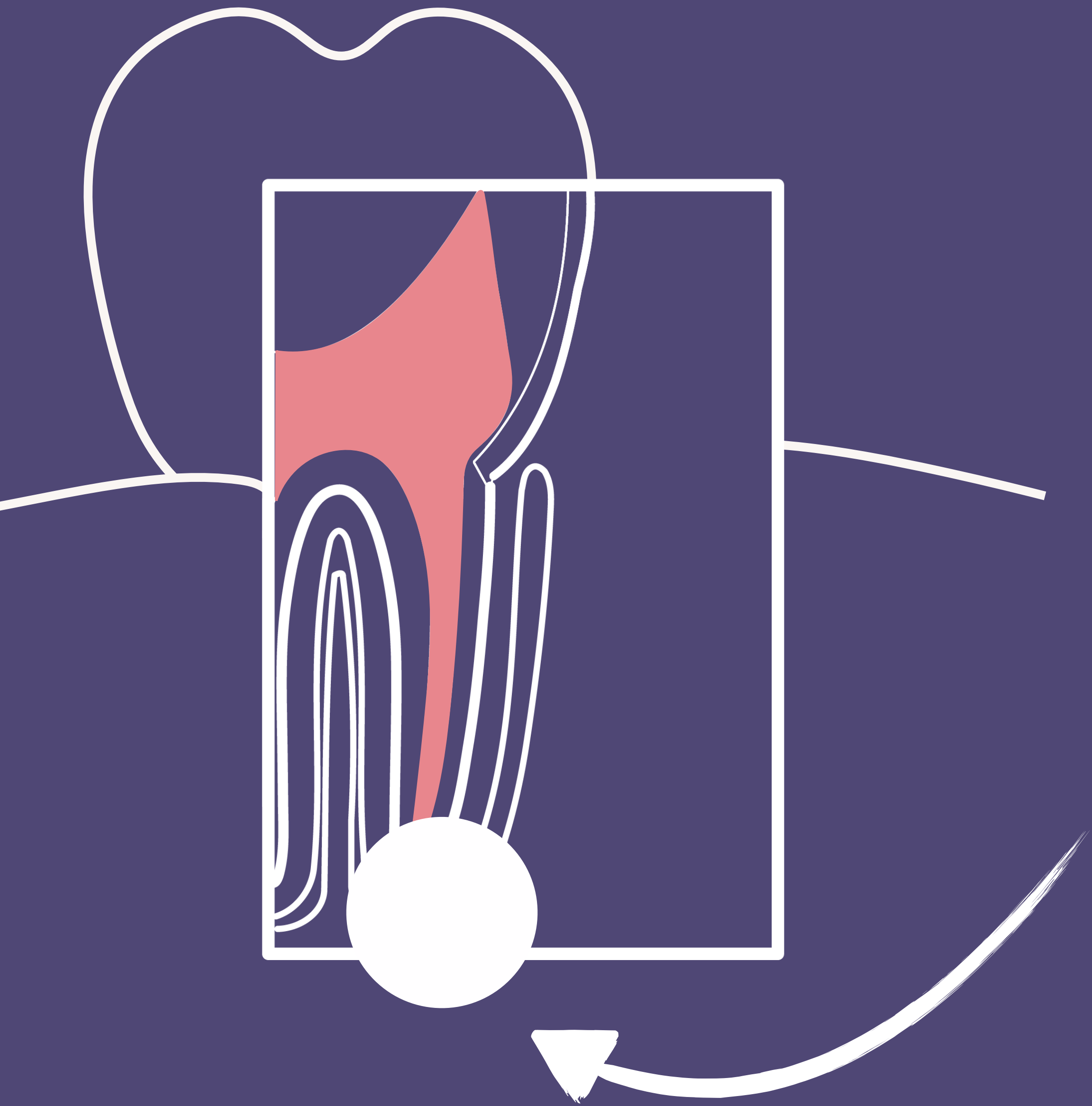


- Pathology Detection
- VRF
- Morphology Analysis
- Prognosis Prediction
- Apical foramen localisation
- Working length determination
- Generalisability Assessment
- Volume segmentation
- The effect of AI on dentists' performance

- Periapical X-rays
- CBCT
- OPG
- Categorical Data

- ANN
- PNN
- BMN
- CNN
- U-net
- GBM/RF

| | |
|---|---|
|  Hu et al.,2022 |  Sherwood et al.,2021 |
|  Hamdan et al.,2022 |  Zhang et al.,2021 |
|  Herbst et al.,2022 |  Chen et al.,2021 |
|  Qu et al.,2022 |  Duan et al.,2021 |
|  Duman et al.,2022 |  Mallishery et al.,2020 |
|  Bayrakdar et al.,2022 |  Orhan et al.,2020 |
|  Zadrożny et al.,2022 |  Endres et al.,2020 |
|  Yang et al.,2022 |  Setzer et al.,2020 |
|  Moidu et al.,2022 |  Fukuda et al.,2020 |
|  Pauwels et al.,2021 |  Ekert et al.,2019 |
|  Krois et al.,2021 |  Hiraiwa et al.,2019 |
|  Vicory et al.,2021 |  Johari et al.,2017 |
|  Li et al.,2021 |  Campo et al.,2015 |
|  Leite et al.,2021 |  Mahmoud et al.,2015 |
|  Lahoud et al.,2021 |  Kositbowornchai et al.,2013 |
|  Ezhov et al.,2021 |  Saghiri et al.,2012a |
|  Zhang et al.,2021 |  Saghiri et al.,2012b |



Commercial Products

Detection

**Periapical Lesions
Endodontic Treatment**

Regulatory approval

**USA & Canada, Europe, United Arab
Emirates, Saudi Arabia, Australia & New
Zealand, Brazil, South Africa**

Future Aspects



Specialist

Morphology analysis
Previous treatment analysis
Working length determination
Treatment prognosis &
assessment



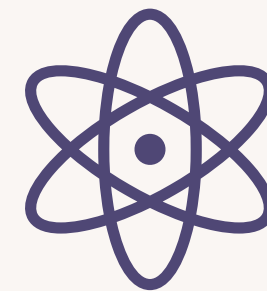
General Dentists

Diagnosis
Treatment planning
Follow-up
Referral

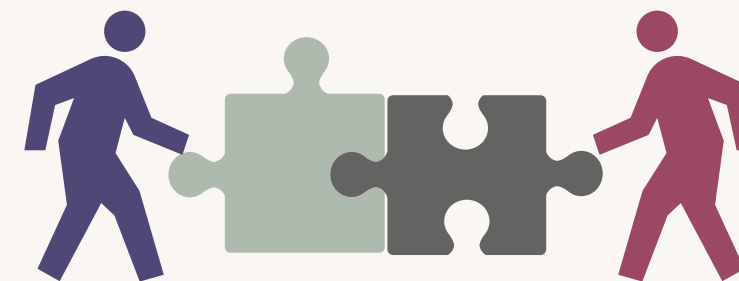


Public

Education
Dental appointments



Generalizability
Robustness



Groundtruth
Disease threshold
Prognosis prediction

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