

Diagnostic Accuracy of Cone Beam Computed
Tomography with Different Voxel Sizes
versus
Root Sectioning for Detecting the Second Mesio-Buccal
Root Canals of the Maxillary Posterior Teeth
(Diagnostic Accuracy Study)

Thesis

submitted to the Faculty of Dentistry, Cairo University for
partial fulfillment of the requirements for Doctor Degree in Oral
and Maxillofacial Radiology

By

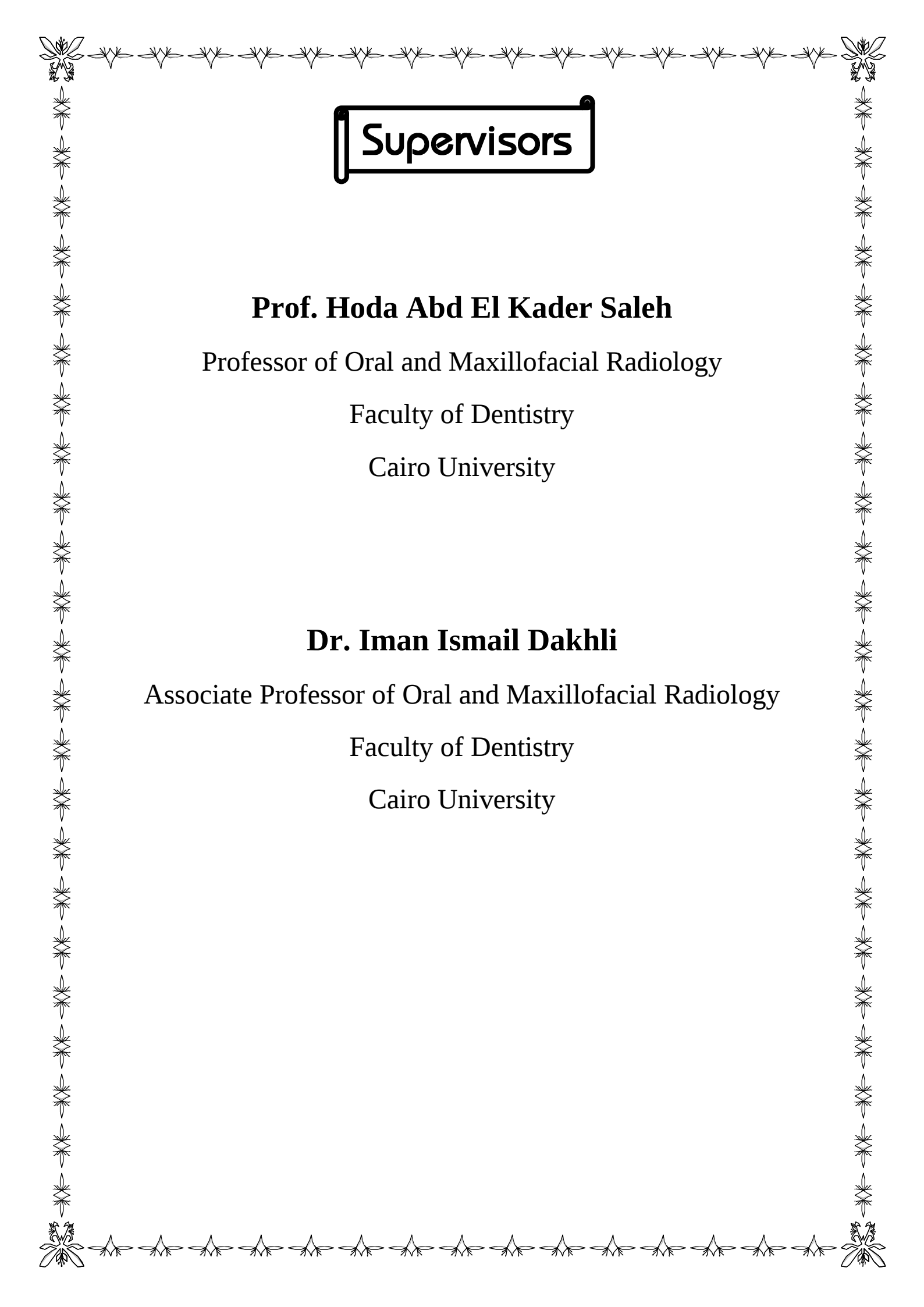
Dalia Ali Hussein

Assistant Lecturer of Oral Radiology

Faculty of Oral and Dental Medicine

MTI University

2018



Supervisors

Prof. Hoda Abd El Kader Saleh

Professor of Oral and Maxillofacial Radiology

Faculty of Dentistry

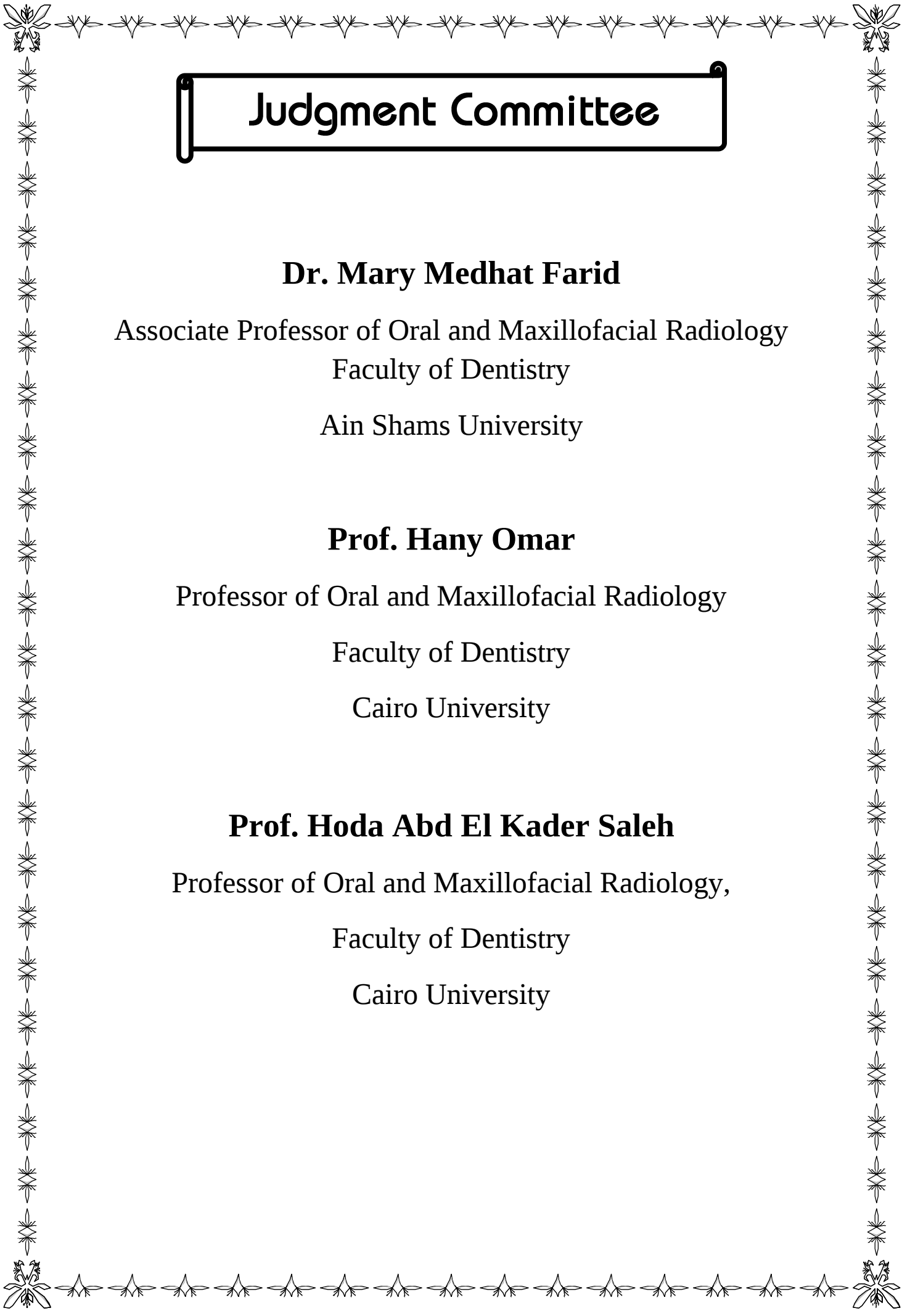
Cairo University

Dr. Iman Ismail Dakhli

Associate Professor of Oral and Maxillofacial Radiology

Faculty of Dentistry

Cairo University



Judgment Committee

Dr. Mary Medhat Farid

Associate Professor of Oral and Maxillofacial Radiology
Faculty of Dentistry
Ain Shams University

Prof. Hany Omar

Professor of Oral and Maxillofacial Radiology
Faculty of Dentistry
Cairo University

Prof. Hoda Abd El Kader Saleh

Professor of Oral and Maxillofacial Radiology,
Faculty of Dentistry
Cairo University

Acknowledgements

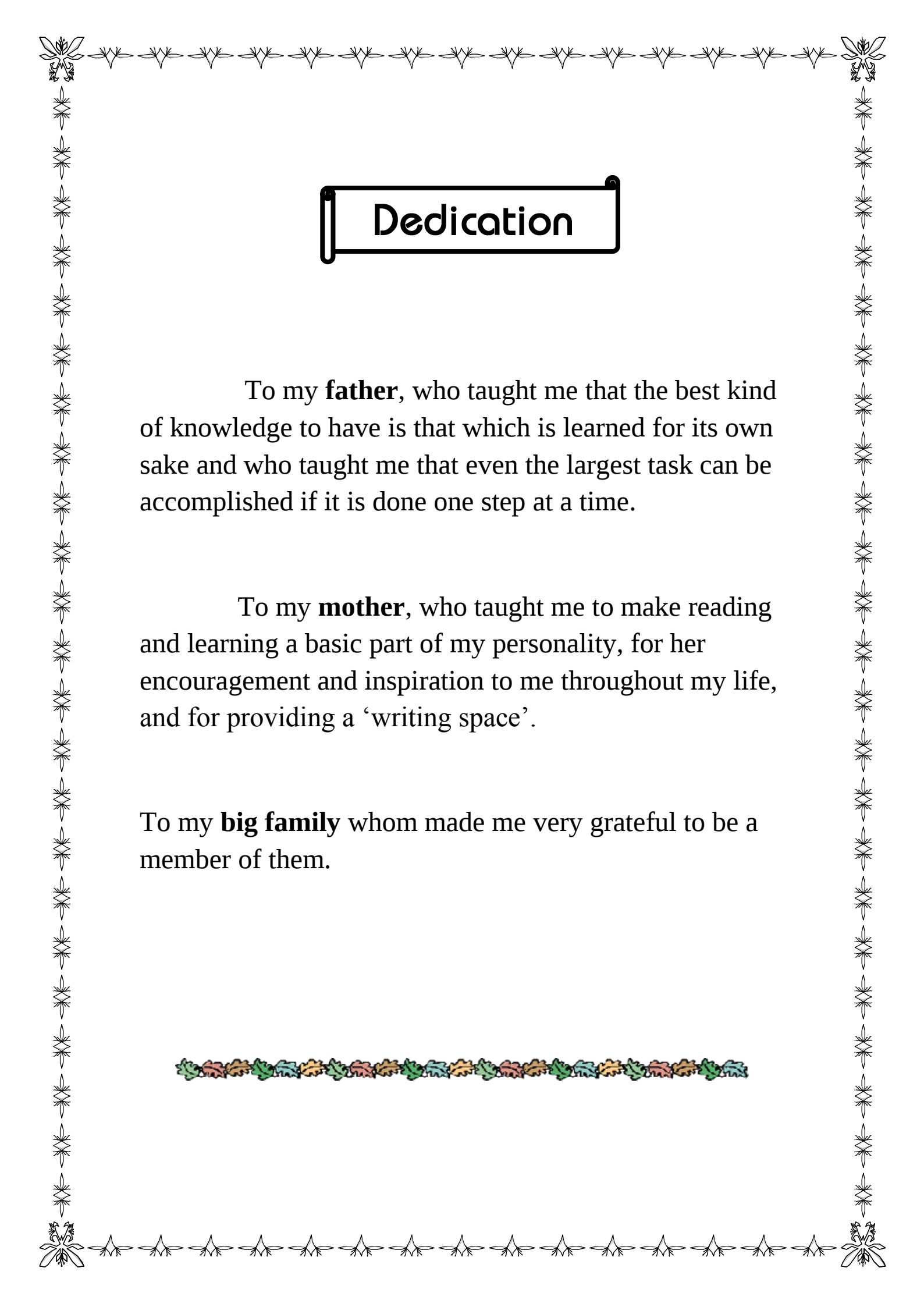
Before all and above all, thanks to **Allah** for everything

I would like to express my deepest gratitude and appreciation to **Prof. Hoda Abd El Kadr Saleh**, professor of Oral & Maxillofacial Radiology, Faculty of Oral and Dental Medicine, Cairo University, for her valuable guidance, instructive supervision, and sincere encouragement.

I'm also thankful for **Dr. Iman Ismail Dakhli**, associate professor Oral & Maxillofacial radiology, Faculty of oral and Dental Medicine, Cairo University, for her guidance and for directing me throughout the study.

Finally, I would like to thank all the **staff members** of the Oral Radiology Department, Faculty of Oral and Dental Medicine, Cairo and MTI University for their excellent support and cooperation





Dedication

To my **father**, who taught me that the best kind of knowledge to have is that which is learned for its own sake and who taught me that even the largest task can be accomplished if it is done one step at a time.

To my **mother**, who taught me to make reading and learning a basic part of my personality, for her encouragement and inspiration to me throughout my life, and for providing a 'writing space'.

To my **big family** whom made me very grateful to be a member of them.





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List of Abbreviations

MB1	First Mesio Buccal Root Canal
MB2	Second Mesio Buccal Root Canal
MB3	Third Mesio Buccal Root Canal
3D	Three-Dimensional
2D	Two-Dimensional
CBCT	Cone-Beam Computed Tomography
CT	Computed Tomography
μCT	Micro Computed Tomography
MRI	Magnetic Resonance Image
CCD/ IIT	Charge-Coupled Device/ Image Intensifier Tube
FPD	Flat Panel Detector
CsI	Cesium Iodide
MPR	Multiplanar Reformation
DVR	Direct Volume Rendering
IVR	Indirect Volume Rendering
MIP	Maximum Intensity Profile
DICOM	Digital Imaging and Communications in Medicine
MSCT	Multi-Slice Computed Tomography
MDCT	Multi-Detector Computed Tomography
TMJ	Temporomandibular Joint
SNR	Signal to Noise Ratio
CNR	Contrast to Noise Ratio
VRF	Vertical Root Fractures
HRF	Horizontal Root Fractures
RCs	Root Canals
IADT	International Association of Dental Traumatology
AAE	American Association of Endodontists
AAOMR	American Academy of Oral and Maxillofacial Radiology
ERR	External Root Resorption

IAN	Inferior Alveolar Nerve
ULD	Ultra Low Dose
LED	Light -Emitting Diode
EDTA	Ethylenediaminetetra Acetic Acid
SOM	Surgical Operating Microscope
ROI	Region of Interest
ALARA	As Low As Reasonably Achievable
SD	Standard Deviation
AUC	Area Under Curve
ROC	Receiver Operating Characteristic Curve
FN	False Negative
FP	False Positive
PPV	Positive Predictive Value
NPV	Negative Predictive Value
PIRT	P: Population I: Index R: Reference T: Target

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