Educational activity: Practical utilization of JORCAD software tool for learning and Computer Aided Detection based in Convolutional Neural Networks. Course Id.: 5506. Year: 2022

Authors: Jorge Hernández-Rodríguez[a], María-José Rodríguez-Conde[b]

[a] *Department of Biomedical and Diagnostic Sciences, Faculty of Medicine, University of Salamanca, C/Alfonso X El Sabio s/n (37007), Salamanca, Spain*
[b] *University Institute of Educational Sciences (IUCE). Grupo de Investigación en InterAcción y eLearning (GRIAL). University of Salamanca, Paseo de Canalejas 169 (37008), Salamanca, Spain*

Objectives and evaluation methodology:

Validate the two facets of JORCAD software based on the experience derived from its utilization by expert users (Radiology specialists) and users with advanced knowledge who are on training period currently (Radiology residents).

- Educational tool for learning in diagnostic Radiology based in case analysis.
- Computer Aided Detection (CAD) tool based in Convolutional Neural Networks (CNN).

The initial theoretical contents are imparted in common sessions to all the expert participants.
Practical formation (individual use of software in a dedicated Workstation) will be structured in four stages:

A. JORCAD software operation: usage tutorial and guided use
B. Analysis of Thorax computed tomography cases
C. Analysis of mammography cases
D. Software evaluation through surveys

During practical sessions, each participant will answer an initial interview along with a series of surveys:

1. Initial interview …………………………………………………………………… (pages 2-3)
2. Assessment of theoretical sessions and software usage tutorial … (page 4)
3. Survey to assess software usability ………………………………………… (pages 5-6)
4. Survey to assess case exploration tools ……………………………………… (pages 7-8)
5. Software to assess CAD tool …………………………………………………… (page 10)
6. Software to assess JORCAD educational capabilities …………………….. (page 11)

With the objectives of monitoring the progress in stages B and C of practical formation and assess software educational utility, each participant will answer a short survey related with each of the 32 cases explored and analyzed:

7. Case survey ……………………………………………………………………. (page 12)

Hereafter, the surveys designed to evaluate the learning activity and validate JORCAD software are presented:

INITIAL INTERVIEW

Date: Click here to select or press to write a date.

Participant: ☐ Diagnostic Radiology specialist ☐Resident in Diagnostic Radiology

Grade of participation in software evaluation: ☐ Thorax CT and mammography ☐ Thorax CT ☐ Mammography

SPECIALISTS

Do you currently read and inform exams from any of these modalities? ☐ Thorax CT y Mammography ☐ Thorax CT ☐ Mammography

Have you got previous experience reading thorax CT exams? ☐ Yes ☐No

Indicate the number of years: Choose an element.

Have you got previous experience reading mammography exams? ☐ Yes ☐No

Indicate the number of years: Choose an element.

RESIDENTS

Year of training program: Choose an element.

How much time have you spent rotating in the area of thorax CT?: ☐ Yes ☐No

Time in months: Choose an element.

How much time have you spent rotating in the area of mammography? ☐ Yes ☐No

Time in months: Choose an element.

COMMON PART

Do you know any annotated image database in thorax CT? ☐ Yes ☐No Which? Click here to write text.

Do you know any annotated image database in mammography? ☐ Yes ☐No Which? Click here to write text.

Have you ever used a virtual training tool in Radiology? ☐ Yes ☐No

Indicate radiological modality or modalities: Choose an element.

Indicate the anatomical location and the type of application: Click here to write text.

Indicate the type of software used: ☐ Commercial ☐ Freeware ☐ Developed in own Hospital / University ☐ None

Have you got previous experience using Computer Aided Detection and Diagnosis tools? ☐ Yes ☐No

Indicate radiological modality or modalities: Choose an element.

Indicate the anatomical location and the type of application: Click here to write text.

Indicate the type of CAD software used: ☐ Commercial ☐ Freeware ☐ Developed in own Hospital / University ☐ None

SURVEY 1: THEORETICAL SESSIONS AND SOFTWARE TUTORIAL

ID	The initial theoretical sessions and software usage tutorial have allowed me to know…	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
A.1	The objectives of the interactive learning activity	☐	☐	☐	☐	☐
A.2	Databases that can be consulted through JORCAD application	☐	☐	☐	☐	☐
A.3	Theoretical principles in which JORCAD's Computer Aided Detection (CAD) module is based	☐	☐	☐	☐	☐
A.4	General options available in software	☐	☐	☐	☐	☐
A.5	Navigation methods to access cases belonging to different databases	☐	☐	☐	☐	☐
A.6	How to import an image study	☐	☐	☐	☐	☐
A.7	Available image presentation and visualization tools (zoom, pan, window/level, image bar)	☐	☐	☐	☐	☐
A.8	How to access and read additional information provided with each image database	☐	☐	☐	☐	☐
A.9	How to locate and show segmented nodules in thorax CT image series	☐	☐	☐	☐	☐
A.10	How to show segmented lesions (masses/calcifications/microcalcifications) in mammography	☐	☐	☐	☐	☐
A.11	How to use the CAD module based in Convolutional Neural Networks	☐	☐	☐	☐	☐
A.12	How to interpret the results of CAD analysis tool	☐	☐	☐	☐	☐
A.13	3D additional controls for nodule visualization	☐	☐	☐	☐	☐
A.14	How to use the tool for statistical analysis of mammography lesions	☐	☐	☐	☐	☐

SURVEY 2: SOFTWARE USABILITY

ID	Assessment of general software usability	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
B.1	The interface and window organization keeps information accessible at all times	☐	☐	☐	☐	☐
B.2	The distribution of database option panels presents data in a clear and reachable manner	☐	☐	☐	☐	☐
B.3	Option panels, listboxes and buttons appear and hide adequately depending on the requested actions	☐	☐	☐	☐	☐
B.4	Tools for case selection, image import and data charge can be localized and used in an intuitive way	☐	☐	☐	☐	☐
B.5	Section and panel headings allow to identify its function readily	☐	☐	☐	☐	☐
B.6	The list of selectable cases fulfilling marked options is presented properly on screen	☐	☐	☐	☐	☐
B.7	The sequence of buttons and actions (charge case, import images, CAD analysis and show information) establishes an straightforward workflow to manage a case	☐	☐	☐	☐	☐
B.8	Error messages displayed are useful to correct their causes	☐	☐	☐	☐	☐
B.9	Tools for modifying window width and level allow to adjust image visualization properly	☐	☐	☐	☐	☐
B.10	Actions integrated in mouse buttons are useful to handle images	☐	☐	☐	☐	☐
B.11	Zoom toolbar allows to enlarge and zoom out the desired region on the image intuitively	☐	☐	☐	☐	☐
B.12	CAD options panel is intuitive to establish conditions for image analysis	☐	☐	☐	☐	☐

B.13	The tool for importing external image studies not included in JORCAD is user-friendly	☐	☐	☐	☐	☐
B.14	Case information window presents available data in a comprehensible manner	☐	☐	☐	☐	☐
B.15	Manipulation of 3D nodule view allows visualization from different angles and distances	☐	☐	☐	☐	☐
B.16	In statistical analysis window, data is presented in an interpretable manner	☐	☐	☐	☐	☐
B.17	Identity JORCAD strong aspects					
B.18	Identify JORCAD weak aspects					
B.19	Improvement suggestions					

SURVEY 3: CASE EXPLORATION TOOLS

ID	Tools for case analysis and exploration	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
C.1	Software environment enables to analyze cases in a fast and accessible manner	☐	☐	☐	☐	☐
C.2	Software classifies and presents thorax CT image studies from databases properly	☐	☐	☐	☐	☐
C.3	A wide variety of cases can be accessed based on the type and shape of nodules available	☐	☐	☐	☐	☐
C.4	Software informs adequately of image loading progress	☐	☐	☐	☐	☐
C.5	Slice scroll bar enables to modify selected slice properly	☐	☐	☐	☐	☐
C.6	Information related with thorax CT cases is clearly shown in the "Information window"	☐	☐	☐	☐	☐
C.7	It is straightforward to identify slices with segmented nodules	☐	☐	☐	☐	☐
C.8	Nodules segmented in thorax CT can be clearly differentiated from surrounding healthy tissue	☐	☐	☐	☐	☐
C.9	3D visualization tool allows to obtain a better knowledge of nodule morphology	☐	☐	☐	☐	☐
C.10	Software classifies and presents mammography cases from databases properly	☐	☐	☐	☐	☐
C.11	A wide variety of cases can be accessed based on the type and shape of mammography lesions	☐	☐	☐	☐	☐
C.12	Information related with mammography cases is clearly shown in the "Information window"	☐	☐	☐	☐	☐
C.13	Mammography segmented lesions can be clearly differentiated from surrounding healthy tissue	☐	☐	☐	☐	☐
C.14	The statistical analysis of mammography lesions (Radiomics) provides useful information for case interpretation	☐	☐	☐	☐	☐
C.15	A magnified view of the lesion with its associated histogram of pixel values allows to obtain a better knowledge of lesion morphology	☐	☐	☐	☐	☐

SURVEY 4: CAD TOOL PERFORMANCE AND EDUCATIONAL UTILITY

D	CAD tool based in Artificial Neural Networks	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
D.1	Software informs of the number of patches processed and analyzed by CAD tool	☐	☐	☐	☐	☐
D.2	The availability of CNNs trained with different patch sizes allows to adapt analysis to the type of case examined	☐	☐	☐	☐	☐
D.3	The information provided with the "Ensemble option" adapted to different sizes of nodules and mammography lesions is useful for case interpretation	☐	☐	☐	☐	☐
D.4	The use of this type of Computer Aided Detection systems is useful in clinical practice	☐	☐	☐	☐	☐
D.5	It is preferable that CAD has a very high sensitivity despite it makes more non-pathological detections	☐	☐	☐	☐	☐
D.6	The presentation of CAD radiological findings as shaded areas of variable intensity is adequate to focus attention on critical areas and interpret results visually	☐	☐	☐	☐	☐
D.7	Showing probability values associated with a CAD finding eases lesion detection task	☐	☐	☐	☐	☐
D.8	Summary results window assists in knowing CAD performance for a concrete image	☐	☐	☐	☐	☐
D.9	Analyzing a region of interest or image with CAD reinforces confidence	☐	☐	☐	☐	☐
D.10	CAD system based in CNN is useful for learning from assisted case analysis in thorax CT	☐	☐	☐	☐	☐
D.11	CAD system based in CNN is useful for learning from assisted case analysis in mammography	☐	☐	☐	☐	☐
D.12	The number of regions marked by CAD algorithm meets my expectations	☐	☐	☐	☐	☐

SURVEY 5: EDUCATIONAL ASSESSMENT

E	Software utility as an educational tool	RATING SCALES				
E.1	Evaluate JORCAD utility for training medical residents in Radiology	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
E.2	Evaluate the specific educational usefulness of CAD module based in CNNs	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
E.3	Having annotated databases with expert validated segmentations is useful for learning in Radiology	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
E.4	Assess the utility of software available options for learning	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
E.5	Assess the difficulty grade associated with software use	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
E.6	Evaluate the complexity of thorax CT cases presented and analyzed	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
E.7	Evaluate the complexity of mammography cases presented and analyzed	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
E.8	The combination of annotated databases with CAD systems enhances the educational capabilities of JORCAD	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
E.9	¿Would you recommend the inclusion of a software tool of this type in radiology resident's training program?	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
E.10	¿Do you think that the use of CAD systems is adequate for training future medical specialists in radiology?	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational

CASE EVALUATION SURVEYS: MAMMOGRAPHY

For each of the proposed cases, and after its evaluation and analysis, each expert participant will rate three items:

Case 1 Mammography	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

Case 2 Mammography	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

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Case 16 Mammography	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

CASE EVALUATION SURVEYS: THORAX CT

For each of the proposed cases, and after its evaluation and analysis, each expert participant will rate three items:

Case 1 Thorax CT	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

Case 2 Thorax CT	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

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Case 16 Thorax CT	Rating scales				
Grade case difficulty	☐ Very easy	☐ Easy	☐ Intermediate	☐ High	☐ Very high
Grade the utility of CAD tool for case analysis	☐ Not useful at all	☐ Slightly useful	☐ Useful	☐ Very useful	☐ Extremely useful
Grade the educational utility of JORCAD for analyzing the case (How recommendable is for a trainee to review and analyze each case with JORCAD?)	☐ Without utility	☐ Of little interest	☐ Recommendable	☐ Quite recommendable	☐ Very educational
Observations about case utility for training residents in Radiology					

Survey A to E results: specialists (participants 1 to 16) and residents (participants 16 to 26)

Participant	A.1	A.2	A.3	A.4	A.5	A.6	A.7	A.8	A.9	A.10	A.11	A.12	A.13	A.14	B.1	B.2	B.3	B.4	B.5	B.6	B.7	B.8	B.9	B.10	B.11	B.12	B.13	B.14	B.15	B.16
1	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	4	5	5	4
2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	4	5	4	4	5	5	4	4	4	4	5
3	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	4	5	5
4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	5	5	4	5	5	5	5	5	4	4	4	4	4	4	4	3	4	3	4	4	4	4	5	5	5	4	4	4	5	4
8	4	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5
9	5	5	5	4	4	5	5	4	5	5	5	5	4	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5
10	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
11	4	4	4	4	4	4	4	4	4	4	3	4	3	4	5	4	5	4	4	5	5	4	4	5	5	5	5	5	4	5
12	4	4	4	4	5	5	5	4	4	4	5	4	3	3	5	5	4	5	4	5	5	4	4	4	4	5	4	4	5	4
13	4	4	4	4	4	5	5	4	4	3	4	4	4	3	4	5	4	4	4	5	4	4	3	4	4	4	4	4	4	4
14	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	4	5	4	5
15	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
16	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	5	5
17	5	5	4	4	5	5	5	5	4	4	4	4	3	3	5	5	4	5	3	4	5	5	4	4	3	4	3	5	3	4
18	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	5	5	5	5	5	5	4	5	5	4	5
19	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	4	3	4	5	5	5	5	3	5
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21	4	5	5	4	5	5	4	5	4	4	4	5	4	5	5	5	4	5	5	4	5	4	4	5	4	5	5	5	4	5
22	5	5	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5	4
23	5	5	4	5	5	5	5	5	4	5	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
24	4	5	4	5	5	5	5	4	5	4	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	4	4	5	5
25	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	3	4	5	5	5	3	5	5	5
26	5	4	4	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	5	5	4	5	4	5	3	5	4	4

Participant	C.1	C.2	C.3	C.4	C.5	C.6	C.7	C.8	C.9	C.10	C.11	C.12	C.13	C.14	C.15	D.1	D.2	D.3	D.4	D.5	D.6	D.7	D.8	D.9	D.10	D.11	D.12
1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	4	5	5	5	5	5
2	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5	5	4	4	5	4	4	4	4	5	5	5	5
3	5	5	5	5	5	5	5	5	3	4	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5
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6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	5	5	5	5	5	5
7	5	5	5	4	5	5	4	5	4	4	5	4	4	5	3	4	4	4	4	3	5	4	4	5	5	5	4
8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
9	5	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	4	5	5	4	4	4	5	4	5	5	5
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15	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4	5	5	5	4	5
16	5	5	4	5	5	4	5	5	4	5	5	5	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5
17	5	4	5	5	5	4	5	4	3	4	4	5	5	3	4	4	5	4	5	3	4	4	4	5	5	5	3
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19	5	5	5	5	5	5	5	4	3	5	5	5	4	5	5	5	4	4	4	5	5	4	4	5	5	4	4
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21	5	5	5	5	5	5	4	4	4	4	5	5	4	4	5	5	5	4	4	3	4	4	5	5	4	4	4
22	5	5	4	5	5	5	5	4	5	5	5	5	4	4	5	4	4	4	5	4	4	4	4	5	5	5	4
23	5	5	4	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	4	4	5	5	4	5	5	5	5
24	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	4	5	4	5	4	5	5	5	5
25	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	4	4	5	3	5	5	4	5	5	5	5
26	5	5	5	5	5	5	5	4	4	5	5	5	5	4	5	5	5	5	4	4	4	4	4	4	4	4	4

Participant	E.1	E.2	E.3	E.4	E.5	E.6	E.7	E.8	E.9	E.10
1	5	5	5	4	2	3	4	5	5	5
2	5	5	5	4	2	3	2	5	5	5
3	5	5	5	5	1	2	3	5	5	5
4	4	4	5	5	1	3	2	5	5	4
5	5	5	5	4	3	3	4	5	5	5
6	4	4	4	5	2	3	3	5	4	4
7	5	5	5	3	3	3	3	5	5	5
8	4	4	4	4	2	2	3	4	4	4
9	5	5	5	4	2	2	2	5	5	5
10	5	5	5	4	1	4	4	4	4	4
11	4	4	4	5	2	3	3	4	4	4
12	3	4	5	3	2	3	4	4	4	4
13	4	4	3	3	3	2	3	4	4	4
14	5	5	5	5	2	5	4	5	5	5
15	5	5	5	5	1	5	5	5	5	5
16	5	5	5	5	1	3	4	5	5	5
17	5	5	5	4	1	2	2	4	5	5
18	4	4	5	4	2	3	3	4	4	4
19	5	5	5	4	1	3	4	4	5	5
20	3	4	4	3	2	2	2	4	4	4
21	4	4	5	3	3	3	3	4	4	4
22	5	4	5	5	2	3	3	5	5	4
23	5	5	5	4	2	3	3	5	4	5
24	5	5	5	5	1	3	4	5	5	5
25	5	5	5	4	3	3	4	5	5	5
26	4	4	5	5	2	3	3	4	4	4

Summary of answers to initial interviews. The order doesn't correspond to the previous surveys to keep anonymity

Type of participant	Grade of participation	Informs	CT experience	CT time	MG experience	MG time	Residency year	CT rotation	CT time	MG rotation	MG time	CT databases	MG databases	Learning software	Type	CAD software	Type
1:specialist 2:resident	1:everything 2:CT 3:MG	1:everything 2:CT 3:MG	0: No 1: Yes	In years	0: No 1: Yes	In years	1:R1 2:R2 3:R3 4:R4	0: No 1: Yes	In months	0: No 1: Yes	In months	0: No 1: Yes	0: No 1: Yes	0: No 1: Yes	1: Comm. 2:Freeware 3:Hosp.Uni. 0:None	0: No 1: Yes	1: Comm. 2:Freeware 3:Hosp.Uni. 0:None
1	1	1	1	30	1	10	-	-	-	-	-	1	1	0	0	1	1
1	1	1	1	10	1	15	-	-	-	-	-	0	1	1	1	0	0
1	1	1	1	15	1	15	-	-	-	-	-	0	1	1	2	1	1
1	1	1	1	17	1	15	-	-	-	-	-	0	1	0	0	1	1
1	1	1	1	30	1	20	-	-	-	-	-	0	0	0	0	0	0
1	1	1	1	20	1	15	-	-	-	-	-	0	0	1	1	0	0
1	1	3	1	7	1	20	-	-	-	-	-	0	1	0	0	1	1
1	1	1	1	15	1	3	-	-	-	-	-	0	0	1	1	0	0
1	1	2	1	15	1	2	-	-	-	-	-	0	0	0	0	0	0
1	1	2	1	22	1	3	-	-	-	-	-	0	0	1	1	0	0
1	1	2	1	7	1	0,25	-	-	-	-	-	0	0	0	0	1	1
1	1	1	1	20	1	15	-	-	-	-	-	1	1	1	2	1	1
1	1	1	1	10	0	0	-	-	-	-	-	0	0	1	2	0	0
1	1	1	1	14	1	4	-	-	-	-	-	0	0	1	1	0	0
1	1	2	1	30	1	2	-	-	-	-	-	0	0	1	1	1	1
2	1	-	-	-	-	-	2	0	0	0	0	0	0	0	0	0	0
2	1	-	-	-	-	-	1	0	0	0	0	0	0	1	1	1	1
2	1	-	-	-	-	-	3	1	3	0	0	0	0	1	1	0	0
2	1	-	-	-	-	-	2	1	3	1	3		0	1	1	0	0
2	1	-	-	-	-	-	2	0	0	0	0	0	0	1	1	0	0
2	1	-	-	-	-	-	3	1	2	1	3	0	0	1	2	0	0
2	1	-	-	-	-	-	3	1	0,5	1	3	0	0	1	1	0	0
2	1	-	-	-	-	-	1	0	0	0	0	0	0	1	1	0	0
2	1	-	-	-	-	-	3	1	3	1	3	0	0	1	2	0	0
2	1	-	-	-	-	-	2	1	3	0	0	1	1	1	1	0	0
2	1	2	1	3	0	0	1	0	0	0	0	0	0	0	0	0	0

Case evaluation survey: results for Thorax CT

Case.Item	T1.1	T1.2	T1.3	T2.1	T2.2	T2.3	T3.1	T3.2	T3.3	T4.1	T4.2	T4.3	T5.1	T5.2	T5.3	T6.1	T6.2	T6.3	T7.1	T7.2	T7.3	T8.1	T8.2	T8.3
1	3	4	4	3	5	4	3	4	4	1	4	4	3	4	4	3	4	4	3	4	4	1	4	4
2	2	4	4	2	5	5	4	5	5	3	4	4	3	4	4	2	4	4	3	5	4	3	4	4
3	2	5	4	3	5	5	4	5	5	1	5	5	2	5	5	2	5	4	4	5	5	1	5	5
4	2	5	4	3	4	4	5	5	5	1	5	5	2	5	5	1	5	5	2	5	5	1	5	5
5	3	3	3	3	4	4	5	3	3	1	4	4	1	4	4	3	3	3	4	3	3	1	4	4
6	2	5	3	2	4	3	3	5	3	1	3	2	2	3	2	2	3	3	4	4	3	1	3	2
7	3	4	4	4	4	4	3	4	4	2	4	3	3	4	3	2	3	3	2	3	3	2	4	3
8	3	5	4	4	3	4	3	4	3	2	3	3	2	3	3	2	3	3	3	4	3	2	3	3
9	1	4	4	2	5	4	2	4	4	1	4	4	2	4	4	1	5	4	2	4	4	1	4	4
10	2	4	3	3	4	4	4	5	5	2	3	3	2	3	3	2	3	3	4	5	5	2	3	3
11	3	3	3	4	4	4	3	4	4	2	3	3	2	3	3	3	3	3	4	4	4	2	3	3
12	2	3	3	3	4	3	4	5	4	2	3	2	2	2	2	2	3	3	2	2	3	2	3	2
13	3	3	3	3	3	3	4	4	4	1	3	2	2	3	3	2	2	3	3	3	3	1	3	2
14	3	5	5	3	5	5	4	4	4	1	3	3	2	3	4	4	4	4	4	5	5	1	3	3
15	3	3	3	3	3	3	2	2	3	2	3	3	2	3	3	3	3	3	3	3	3	2	3	3
16	3	5	5	5	5	5	2	3	4	2	3	3	3	3	3	4	4	4	3	3	4	2	3	3
17	2	3	2	3	4	4	2	2	2	2	2	2	2	2	4	4	3	2	2	2	2	2	2	2
18	3	4	4	3	5	4	2	4	4	2	3	4	3	4	4	4	4	5	3	4	4	2	3	4
19	3	4	4	4	5	4	3	5	5	3	5	5	4	5	5	5	5	5	4	4	5	3	5	5
20	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3
21	3	3	4	3	4	4	4	4	4	2	3	3	2	3	3	3	3	3	3	3	4	2	3	3
22	2	4	3	3	5	5	4	5	5	2	3	4	3	4	4	3	3	4	4	4	5	2	3	4
23	2	5	4	3	4	5	4	5	5	2	5	4	2	5	5	3	4	4	4	5	5	2	5	4
24	4	5	5	3	4	4	4	5	5	1	4	4	3	4	3	4	5	5	4	5	5	1	4	4
25	3	4	3	4	5	4	3	5	4	1	3	3	2	5	5	3	4	3	2	4	3	1	3	3
26	3	3	3	3	3	3	4	3	4	2	3	3	2	3	3	2	3	3	3	3	3	2	3	3

Case.Item	T9.1	T9.2	T9.3	T10.1	T10.2	T10.3	T11.1	T11.2	T11.3	T12.1	T12.2	T12.3	T13.1	T13.2	T13.3	T14.1	T14.2	T14.3	T15.1	T15.2	T15.3	T16.1	T16.2	T16.3
1	2	4	4	4	4	4	3	3	3	4	4	4	3	4	4	2	4	4	3	4	4	5	5	5
2	2	4	4	4	4	4	2	4	4	3	4	4	2	4	4	2	4	4	2	4	4	4	4	4
3	2	5	4	3	5	5	3	5	5	4	5	5	3	4	4	2	5	5	3	5	4	5	5	5
4	1	5	5	2	4	4	2	4	4	4	5	5	2	5	5	4	5	5	2	5	5	5	5	5
5	1	4	4	5	4	4	3	3	3	4	4	4	2	4	4	3	4	4	3	4	4	5	5	5
6	2	3	3	4	3	4	3	3	3	4	4	4	2	3	2	2	3	3	4	4	4	5	5	5
7	2	3	3	3	4	4	3	3	3	3	3	3	3	4	4	1	3	3	4	4	4	4	4	4
8	3	3	4	3	4	4	2	3	3	3	3	3	3	4	3	3	4	3	2	4	4	5	4	4
9	1	4	4	3	4	4	2	4	4	2	4	4	2	4	4	2	4	4	2	5	4	3	4	4
10	3	3	3	2	3	3	4	4	4	5	5	5	3	3	3	3	3	3	2	3	3	4	4	4
11	2	3	3	3	4	4	3	3	3	3	4	4	3	3	3	3	3	3	3	4	3	4	4	4
12	2	2	2	4	4	4	2	3	2	3	4	4	3	3	3	3	3	3	3	3	3	4	4	4
13	1	2	2	3	3	3	2	3	2	4	4	4	2	3	2	2	2	2	3	3	3	4	4	4
14	2	3	3	5	5	5	4	4	5	4	4	4	2	4	3	3	4	4	4	4	4	5	5	5
15	2	3	3	3	4	3	3	3	3	4	4	4	2	3	4	3	4	4	3	4	4	3	3	3
16	3	3	4	3	3	3	4	4	5	3	3	3	3	3	3	3	3	3	5	5	5	5	4	5
17	3	3	3	3	3	4	3	4	4	2	2	2	3	3	3	4	4	4	3	3	3	3	3	3
18	3	4	4	3	4	4	3	4	4	3	4	5	3	4	4	3	4	4	4	4	4	3	4	4
19	4	5	5	4	5	5	4	5	5	3	4	5	3	5	5	4	5	5	3	5	5	5	5	5
20	2	3	3	3	3	3	2	3	3	2	3	3	2	3	3	3	3	3	2	3	3	4	4	3
21	3	4	3	3	4	4	3	3	3	2	2	3	2	3	3	2	3	4	3	3	3	4	4	4
22	4	4	5	3	3	4	3	3	4	3	3	4	2	3	3	2	3	3	2	4	5	4	4	4
23	3	5	5	3	5	5	3	5	5	3	5	5	4	4	5	3	5	5	3	5	5	5	5	5
24	3	4	4	3	4	4	4	4	4	4	4	4	4	4	4	5	5	5	3	5	5	5	3	4
25	3	4	3	2	5	4	3	5	4	4	3	3	2	5	5	3	5	5	2	5	4	4	5	4
26	2	3	3	2	3	3	2	3	3	3	3	3	2	3	3	2	3	3	2	3	3	4	3	3

Case evaluation survey: results for Mammography

Case.Item	M1.1	M1.2	M1.3	M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	M4.3	M5.1	M5.2	M5.3	M6.1	M6.2	M6.3	M7.1	M7.2	M7.3	M8.1	M8.2	M8.3
1	3	5	5	2	4	4	3	4	5	3	5	5	3	4	4	3	3	3	3	4	4	3	4	4
2	2	4	4	2	4	4	2	4	4	2	4	4	2	4	4	3	4	4	2	4	4	2	4	4
3	3	5	5	2	5	4	3	5	5	4	4	5	3	5	5	2	5	5	2	5	5	3	5	5
4	2	5	5	2	5	4	2	5	5	2	5	5	2	5	5	2	3	3	2	5	5	2	5	5
5	3	4	4	3	3	3	3	3	3	2	4	4	2	4	4	5	5	5	3	3	3	3	3	3
6	3	3	3	2	3	2	4	5	5	3	4	4	2	2	3	2	3	3	3	4	4	2	2	2
7	3	2	2	3	4	4	3	5	5	4	5	5	2	4	5	2	2	2	2	4	4	2	5	5
8	4	3	4	1	2	2	3	5	4	3	4	4	2	3	2	3	3	3	3	4	4	3	3	3
9	3	4	4	2	4	4	2	4	4	2	4	4	2	4	4	3	4	4	2	4	4	2	4	4
10	3	3	3	2	3	3	4	4	4	4	4	4	3	3	3	4	5	5	3	3	3	4	4	4
11	3	4	4	3	3	3	4	4	4	3	3	3	3	4	4	4	4	4	3	4	4	3	4	4
12	4	4	4	3	3	3	4	4	4	3	4	4	2	2	2	4	5	5	3	4	4	3	3	3
13	2	3	3	3	3	4	3	4	3	3	3	3	2	3	3	2	3	2	3	3	3	3	4	3
14	4	4	4	4	4	4	4	5	5	3	3	3	3	3	3	5	5	5	4	4	4	4	4	3
15	3	4	4	4	4	4	3	4	4	2	3	3	3	3	4	4	5	5	4	4	4	3	3	3
16	4	5	5	4	4	4	4	4	4	3	3	3	3	3	3	5	5	4	4	4	4	3	3	3
17	3	4	4	2	3	2	3	3	3	2	3	3	2	3	3	3	3	3	2	2	2	4	4	4
18	3	4	4	3	4	4	4	4	5	3	4	5	3	4	5	4	5	5	3	4	4	3	4	5
19	4	5	5	3	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5
20	3	3	3	2	3	4	3	3	3	2	3	4	2	4	3	3	3	3	3	4	5	3	3	4
21	3	3	4	2	4	4	3	3	4	2	3	3	3	3	3	3	4	4	2	3	3	2	4	3
22	3	5	5	2	4	4	4	5	5	3	3	4	3	4	4	2	3	3	4	5	5	3	4	4
23	3	5	5	4	5	5	3	5	5	4	5	5	3	4	5	4	5	5	3	5	5	4	5	5
24	3	5	5	2	5	5	4	5	5	2	4	5	3	4	5	5	5	5	3	4	4	4	5	5
25	4	5	5	3	5	5	3	5	3	3	3	3	3	5	5	5	5	5	2	4	4	3	5	3
26	3	3	3	3	4	3	3	3	3	2	3	3	2	3	3	4	4	3	2	3	3	2	3	3

Case.Item	M9.1	M9.2	M9.3	M10.1	M10.2	M10.3	M11.1	M11.2	M11.3	M12.1	M12.2	M12.3	M13.1	M13.2	M13.3	M14.1	M14.2	M14.3	M15.1	M15.2	M15.3	M16.1	M16.2	M16.3
1	3	4	4	3	4	4	4	4	4	3	5	5	4	5	5	3	4	4	2	4	4	4	4	3
2	3	4	4	2	4	4	3	4	4	2	4	4	3	4	4	2	4	4	2	4	4	2	3	3
3	3	3	4	2	5	5	4	5	5	3	4	5	2	5	5	3	5	5	2	5	5	3	5	3
4	2	5	5	1	5	5	4	5	5	2	5	5	3	5	5	2	4	5	2	5	5	2	5	2
5	3	3	3	2	4	4	4	4	4	3	4	4	5	5	5	3	4	4	2	4	4	4	5	3
6	3	3	3	4	4	4	5	5	5	2	3	3	3	3	3	3	4	4	4	4	4	2	2	3
7	4	4	4	2	4	4	4	5	5	3	5	5	4	5	5	3	4	4	3	5	5	3	4	4
8	4	4	4	2	3	3	3	3	3	2	3	3	2	3	3	3	3	3	3	3	3	4	3	4
9	3	5	4	3	4	4	4	4	5	3	4	5	3	5	5	2	4	4	3	4	4	3	4	3
10	4	4	3	3	3	5	5	5	3	3	3	4	4	4	4	3	3	3	4	4	4	2	3	4
11	4	5	5	3	3	3	5	5	5	3	4	4	3	4	4	4	4	4	3	4	4	4	4	4
12	2	3	3	3	3	2	3	3	3	3	4	4	3	3	4	3	4	4	3	4	4	2	2	2
13	3	3	3	3	3	4	3	3	3	3	3	4	3	3	3	3	3	4	3	3	3	4	4	3
14	3	3	4	4	4	4	5	5	5	5	5	5	5	5	5	4	4	4	4	4	4	4	4	3
15	3	3	3	2	3	3	3	4	4	3	4	4	3	4	4	4	4	4	3	4	4	4	4	3
16	5	5	5	3	3	3	3	3	3	3	3	3	3	4	3	2	3	2	3	3	3	2	3	5
17	4	4	4	2	2	2	2	3	3	2	3	3	3	3	3	3	4	3	2	3	3	2	3	4
18	2	4	4	3	4	5	4	4	5	4	4	5	3	4	4	4	4	5	3	4	4	4	4	2
19	5	5	5	4	5	5	4	5	5	4	5	5	4	5	4	4	5	5	5	4	5	5	4	5
20	3	4	4	2	3	4	2	3	3	2	3	3	2	3	5	3	3	4	2	5	4	4	3	3
21	4	4	4	2	3	3	3	4	4	3	3	3	3	4	4	2	3	3	2	3	3	2	3	4
22	3	4	4	2	3	3	4	5	5	3	4	4	3	5	5	3	5	5	3	3	4	3	4	3
23	3	4	4	2	5	5	5	5	5	4	5	5	4	5	5	4	5	5	3	3	4	5	5	3
24	2	4	4	3	5	5	5	5	5	3	5	5	4	5	5	3	4	4	4	5	4	3	4	2
25	5	5	5	2	4	3	5	5	5	3	5	3	2	4	3	4	5	5	2	4	4	3	5	5
26	3	5	3	2	3	3	3	3	4	3	4	3	3	3	3	3	4	4	2	3	3	4	3	3