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18 UNITED STATES DISTRICT COURT  
19 NORTHERN DISTRICT OF CALIFORNIA  
20 SAN JOSE DIVISION

22 University of British Columbia,

23 Plaintiff,

24 v.

25 Caption Health, Inc.; GE Healthcare  
26 Technologies, Inc.,

27 Defendant.

Case No. 5:24-cv-03200-EKL

JOINT CLAIM CONSTRUCTION AND  
PREHEARING STATEMENT PURSUANT  
TO PATENT LOCAL RULE 4-3

Judge: Eumi K. Lee

Pursuant to Patent L.R. 4-3, plaintiff University of British Columbia (“UBC” or “Plaintiff”) and defendants Caption Health, Inc. and GE Healthcare Technologies, Inc. (“Defendants”) (collectively, the “Parties”) jointly submit this Joint Claim Construction and Prehearing Statement regarding U.S. Patent Nos. 11,129,591 (the “’591 patent”) and 10,751,029 (the “’029 patent”), which are attached as Exhibits A and B herein.

**I. Proposed Claim Constructions and Supporting Evidence**

**A. Construction of Terms on Which the Parties Agree**

Pursuant to Patent L.R. 4-3(a), the Parties identify the following terms and corresponding constructions on which the Parties agree:

<p>“means for receiving signals representing a set of ultrasound images of the subject”  (’029 patent, claim 30)</p>	<p><u>Function</u>: receiving signals representing a set of ultrasound images of the subject  <u>Corresponding structure that performs the function</u>: a processor with I/O interface</p>
<p>“means for deriving one or more extracted feature representations from the set of ultrasound images”  (’029 patent, claim 30)</p>	<p><u>Function</u>: deriving one or more extracted feature representations from the set of ultrasound images  <u>Corresponding structure that performs the function</u>: a processor and memory operating a neural network</p>
<p>“means for determining, based on the derived one or more extracted feature representations, a quality assessment value representing a quality assessment of the set of ultrasound images”  (’029 patent, claim 30)</p>	<p><u>Function</u>: determining, based on the derived one or more extracted feature representations, a quality assessment value representing a quality assessment of the set of ultrasound images  <u>Corresponding structure that performs the function</u>: a processor and memory operating a neural network</p>
<p>“means for determining, based on the derived one or more extracted feature representations, an image property associated with the set of ultrasound images”  (’029 patent, claim 30)</p>	<p><u>Function</u>: determining, based on the derived one or more extracted feature representations, an image property associated with the set of ultrasound images  <u>Corresponding structure that performs the function</u>: a processor and memory operating a neural network</p>

<p>1 “means for producing signals representing the 2 quality assessment value and the image 3 property for causing the quality assessment 4 value and the image property to be associated 5 with the set of ultrasound images”  (’029 patent, claim 30)</p>	<p><u>Function</u>: producing signals representing the quality assessment value and the image property for causing the quality assessment value and the image property to be associated with the set of ultrasound images  <u>Corresponding structure that performs the function</u>: a processor and memory</p>
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**B. Proposed Constructions of Disputed Terms**

Pursuant to Patent L.R. 4-3(b), the Parties attach Exhibit C, which sets forth each Party’s proposed construction of each disputed term and identifies any intrinsic and/or extrinsic evidence known to each Party, respectively, on which the Party intends to rely.

**C. Identification of Significant Terms**

Pursuant to Patent L.R. 4-3(c) and Sec. III.A. of Judge Lee’s Patent Standing Order, the Parties identify the terms listed below as most significant to resolution of the case. Plaintiff does not believe any particular term is case dispositive; all terms other than “quality assessment value” were identified by Defendants for construction. Defendants believe that the “determining” and “in response to determining” terms, if construed as Defendants have proposed, will be dispositive with respect to alleged infringement of the ’591 patent.

1. “quality assessment value” (’591 patent, claims 1–3, 5, 7–17, 19; ’029 patent, claims 1, 9-14, 21, 27-30)
2. “determining that a [first/second] set of assessment parameters of the sets of assessment parameters is associated with the [first/second] view category” (’591 patent, claims 1, 11, 15)
3. “in response to determining that the [first/second] set of assessment parameters is associated with the [first/second] view category, inputting the [first/second] at least one echocardiographic image into the neural network defined by the [first/second] set of assessment parameters” (’591 patent, claims 1, 11, 15)
4. “a set of common [assessment/neural network] parameters, which are common to each of the sets of [assessment/neural network] parameters” (’591 patent, claims 6, 10, 14, 20)
5. “clinical plane assessment value” (’591 patent, claims 9, 13)

1 **II. Anticipated Length of Time for Claim Construction Hearing**

2 The Parties respectively request three (3) hours, with time split evenly between the sides.

3 **III. Witnesses**

4 The Parties do not anticipate the need to call any witnesses at the Claim Construction  
5 Hearing.

6 **IV. Factual Findings**

7 The Parties do not request any factual findings related to claim construction from the Court.  
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Dated: May 30, 2025

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**ATTESTATION**

Pursuant to Civil Local Rule 5-1(i)(3), I hereby attest that all signatories to this document  
concur in its filing.

Dated: May 30, 2025

/s/ Ramsey M. Al-Salam  
Ramsey M. Al-Salam

# EXHIBIT C

**EXHIBIT C**

Claim Term	UBC's Proposed Construction	UBC's Supporting Evidence	Defendants' Proposed Construction	Defendants' Supporting Evidence
<p>“quality assessment value”</p> <p>(’591 patent, claims 1–3, 5, 7–17, 19; ’029 patent, claims 1, 9-14, 21, 27-30)</p>	<p>Plain and ordinary meaning / no construction required.</p>	<p><b>Intrinsic Evidence:</b></p> <p><i>See e.g.,</i></p> <p>’591 patent (UBC_CAPTION_00001187-1230) at abstract, 1:15-2:65, 3:64-4:4, 4:15-17, 4:27-33, 4:40-43, 4:46-48, 4:55-57, 3:3-55, 5:8-45, 5:62-6:20, 7:11-19, 8:53-9:18, 11:27-41, 12:7-55, 13:62-14:4, 14:38-17:47, 18:12-35, 20:7-63, 21:22-59, 23:43-46, 24:1-25, 24:42-46, 25:19-48, 25:65-26:2, 26:13-27:2, 27:13-20, 27:48-30:33, 30:48-34:7, Figs. 2-3, 8, 12-13, 16, 18, 21, claims 1-3, 5, 7-17, 19.</p> <p>’029 patent (UBC_CAPTION_00002175-2204) at abstract, 1:16-49, 2:8-49, 2:51-62, 3:33-65, 4:12-21, 4:37-46, 4:61-5:59, 6:42-55, 6:56-7:42, 8:37-51, 9:64-10:8, 11:30-42, 12:52-13:48, 14:54-15:26, 16:1-13, 16:39-64, 17:23-4, 18:7-53, 19:8-28, 19:36-20:26, 20:35-49, 22:11-15, 22:33-42, Figs. 2-4, 10-12, claims 1, 9-14, 21, 27-30.</p> <p>’591 File History (UBC_CAPTION_00000233-1177), 10/22/2018 Appl., 3/15/2019 Prelim.</p>	<p>score of diagnostic image quality</p>	<p><b>Intrinsic Evidence:</b></p> <p>[’591 patent: 5:30-45, 5:62-67, 6:17-20, 14:50- 15:54, 20:25-35, Fig. 12 (424), Fig. 13 (442), Fig. 18 (784), claim 2]</p> <p>[’029 patent: 5:5-22, 5:38-39, 6:52-55, 7:7-14, 7:15-32, 16:50-58]</p>

		<p>Amdt., 5/5/2021 Office Action, 8/5/2021 Applicant Resp., 8/18/2021 Notice of Allowance.</p> <p>'029 File History (UBC_CAPTION_00002214-2956), 8/30/2019 Appl., 1/8/2020 Office Action, 3/19/2020 Applicant Resp., 6/25/2020 Notice of Allowance.</p> <p><b>Extrinsic Evidence:</b></p> <p><i>See e.g., Automatic Detection of Proper Views in Apical Four-Chamber Echocardiography Using Deep Convolutional Neural Networks (UBC_CAPTION_00000001-6), Automatic quality assessment of apical four-chamber echocardiograms using deep convolutional neural networks (UBC_CAPTION_00002128-2134), Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks: Feasibility on the Apical Four-Chamber View (UBC_CAPTION_00002135-2144), Quality Assessment of Echocardiographic Cine Using Recurrent Neural Networks: Feasibility on Five Standard View Planes (UBC_CAPTION_00002145-2153).</i></p>		
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<p>“determining that a [first/second] set of assessment parameters of the sets of assessment parameters is associated with the [first/second] view category”</p> <p>(‘591 patent, claims 1, 11, 15)</p>	<p>Plain and ordinary meaning / no construction required.</p>	<p><b>Intrinsic Evidence:</b></p> <p><i>See e.g.,</i></p> <p>’591 patent (UBC_CAPTION_00001187-1230) at abstract, 1:38-3:55, 4:1-4, 4:7-9, 3:24-26, 3:40-43, 5:8-29, 5:30-45, 9:37-10:18, 11:27-12:6, 13:62-14:26, 14:50-15:54, 17:48-18:57, 20:55-22:52, 25:33-26:2, 26:13-45, 27:21-41, 28:53-29:7, 29:42-30:6, 30:55-31:10, 32:24-46, 33:21-34:7, Figs. 3, 5, 11, 16, claims 1, 11, 15.</p> <p>’591 File History (UBC_CAPTION_00000233-1177), 10/22/2018 Appl., 3/15/2019 Prelim. Amdt., 5/5/2021 Office Action, 8/5/2021 Applicant Resp., 8/18/2021 Notice of Allowance.</p> <p><b>Extrinsic Evidence:</b></p> <p><i>See e.g., Automatic Detection of Proper Views in Apical Four-Chamber Echocardiography Using Deep Convolutional Neural Networks</i> (UBC_CAPTION_00000001-6), <i>Automatic quality assessment of apical four-chamber echocardiograms using deep convolutional neural networks</i> (UBC_CAPTION_00002128-2134), <i>Automatic Quality Assessment of Echocardiograms Using</i></p>	<p>determining which of the respective sets of assessments parameters is associated with the [first/second] view category</p>	<p><b>Intrinsic Evidence:</b></p> <p>[‘591 patent: Fig. 2 (142, 146), Fig. 7 (302), Fig. 10 (342), Fig. 11 (402), 8:43-52, 8:57-65, 9:16- 18, 10:47-51, 10:62-11:23, 11:34-44, 11:52-59, 13:26-37, 13:48-52, 13:62-14:26, 34:42-46]</p> <p>[Prosecution History of the ‘591 patent: UBC_CAPTION_00001133-1138]</p>
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		<p><i>Convolutional Neural Networks: Feasibility on the Apical Four-Chamber View</i> (UBC_CAPTION_00002135-2144),  <i>Quality Assessment of Echocardiographic Cine Using Recurrent Neural Networks: Feasibility on Five Standard View Planes</i> (UBC_CAPTION_00002145-2153).</p>		
<p>“in response to determining that the [first/second] set of assessment parameters is associated with the [first/second] view category, inputting the [first/second] at least one echocardiographic image into the neural network defined by the [first/second] set of assessment parameters”</p> <p>(‘591 patent, claims 1, 11, 15)</p>	<p>Plain and ordinary meaning / no construction required.</p>	<p><b>Intrinsic Evidence:</b></p> <p><i>See e.g.,</i></p> <p>’591 patent (UBC_CAPTION_00001187-1230) at abstract, 1:38-3:55, , 4:1-4, 4:7-9, 3:24-26, 3:40-43, 5:8-29, 5:30-45, 9:37-10:30, 11:27-12:6, 13:62-14:49, 15:55-16:11, 17:48-18:61, 20:55-22:52, 25:33-26:2, 26:13-45, 27:21-41, 28:53-29:7, 29:42-30:6, 30:55-31:10, 32:24-46, 33:21-34:7, Figs. 3, 5, 11, 16, claims 1, 11, 15.</p> <p>’591 File History (UBC_CAPTION_00000233-1177), 10/22/2018 Appl., 3/15/2019 Prelim. Amdt., 5/5/2021 Office Action,</p>	<p>in response to determining that the [first/second] set of assessment parameters is associated with the [first/second] view category, inputting the [first/second] at least one echocardiographic image into the respective neural network defined by the [first/second] set of assessment parameters</p>	<p><b>Intrinsic Evidence:</b></p> <p>[‘591 patent: Fig. 2 (146), Fig. 8 (374), Fig. 10 (340, 342), Fig. 11 (404) 13:5-37, 13:44-52, 14:27-49]</p> <p>[Prosecution History of the ‘591 patent: UBC_CAPTION_00001133-1138]</p>

		<p>8/5/2021 Applicant Resp., 8/18/2021 Notice of Allowance.</p> <p><b>Extrinsic Evidence:</b></p> <p><i>See e.g., Automatic Detection of Proper Views in Apical Four-Chamber Echocardiography Using Deep Convolutional Neural Networks</i> (UBC_CAPTION_00000001-6), <i>Automatic quality assessment of apical four-chamber echocardiograms using deep convolutional neural networks</i> (UBC_CAPTION_00002128-2134), <i>Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks: Feasibility on the Apical Four-Chamber View</i> (UBC_CAPTION_00002135-2144), <i>Quality Assessment of Echocardiographic Cine Using Recurrent Neural Networks: Feasibility on Five Standard View Planes</i> (UBC_CAPTION_00002145-2153).</p>		
<p>“a set of common [assessment/neural network] parameters, which are common to each of the sets of</p>	<p>Plain and ordinary meaning / no construction required.</p>	<p><b>Intrinsic Evidence:</b></p> <p><i>See e.g.,</i> ’591 patent (UBC_CAPTION_00001187-1230) at 4:15-23, 4:55-57, 12:7-13:61, 14:27-</p>	<p>a set of [assessment/neural network] parameters, which are common to each of the sets of</p>	<p><b>Intrinsic Evidence:</b></p> <p>[’591 patent: Fig. 8 (362), Fig. 9 (320), 11:52-62, 12:7-21, 12:31-41, 13:5-25, 13:44-52, 14:27-47, 24:1-15]</p>

<p>[assessment/neural network] parameters”</p> <p>(‘591 patent, claims 6, 10, 14, 20)</p>		<p>49, 20:64-21:9, 21:47-22:29, 22:40-48, 24:1-25, 25:65-26:2, 27:42-47, 28:30-52, 29:19-41, 31:11-16, 31:65-32:23, 32:58-33:16, FIGs. 8-10, 21, claims 6, 10, 14, 20.</p> <p>’591 File History (UBC_CAPTION_00000233-1177), 10/22/2018 Appl., 3/15/2019 Prelim. Amdt., 5/5/2021 Office Action, 8/5/2021 Applicant Resp., 8/18/2021 Notice of Allowance.</p> <p><b>Extrinsic Evidence:</b></p> <p><i>See e.g., Automatic Detection of Proper Views in Apical Four-Chamber Echocardiography Using Deep Convolutional Neural Networks (UBC_CAPTION_00000001-6), Automatic quality assessment of apical four-chamber echocardiograms using deep convolutional neural networks (UBC_CAPTION_00002128-2134), Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks: Feasibility on the Apical Four-Chamber View (UBC_CAPTION_00002135-2144), Quality Assessment of Echocardiographic Cine Using Recurrent Neural Networks: Feasibility on Five Standard View</i></p>	<p>[assessment/neural network] parameters, and which can be shared neural network layers</p>	
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		<p><i>Planes</i> (UBC_CAPTION_00002145-2153).</p>		
<p>“clinical plane assessment value”  (’591 patent, claims 9, 13)</p>	<p>a value indicating the extent to which the image allows for a quantified clinical measurement of anatomical features</p>	<p><b>Intrinsic Evidence:</b>  <i>See e.g.,</i>  ’591 patent (UBC_CAPTION_00001187-1230) at 1:65-2:18, 2:46-65, 3:32-55, 14:50-15:51, 18:12-15, 20:25-35, 28:23-29, 29:12-18, 31:58-64, 32:51-57, claims 9, 13.  ’591 File History (UBC_CAPTION_00000233-1177), 10/22/2018 Appl., 3/15/2019 Prelim. Amdt., 5/5/2021 Office Action, 8/5/2021 Applicant Resp., 8/18/2021 Notice of Allowance.  <b>Extrinsic Evidence:</b>  <i>See e.g., Automatic Detection of Proper Views in Apical Four-Chamber Echocardiography Using Deep Convolutional Neural Networks</i> (UBC_CAPTION_00000001-6), <i>Automatic quality assessment of apical four-chamber echocardiograms using deep convolutional neural networks</i> (UBC_CAPTION_00002128-2134), <i>Automatic Quality Assessment of Echocardiograms Using Convolutional Neural Networks:</i></p>	<p>component quality score</p>	<p><b>Intrinsic Evidence:</b>  [’591 patent: 5:46-51, 9:1-12, 14:61-15:27]</p>

		<p><i>Feasibility on the Apical Four-Chamber View (UBC_CAPTION_00002135-2144), Quality Assessment of Echocardiographic Cine Using Recurrent Neural Networks: Feasibility on Five Standard View Planes (UBC_CAPTION_00002145-2153).</i></p>		
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