## 7. REFERENCES

- K. Panetta, "Smarter With Gartner," Gartner, 21 October 2019. [Online]. Available: https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2020/. [Accessed May 2020].
- [2] D. Buddhika, R. Liyadipita, S. Nadeeshan, H. Witharana, S. Javasena and U. Thayasivam, "Domain Specific Intent Classification of Sinhala Speech Data," in 2018 International Conference on Asian Language Processing (IALP), Bandung, Indonesia, 2018.
- [3] H. Dudley, "The Vocoder—Electrical Re-Creation of Speech," *Journal of the Society of Motion Picture Engineers*, vol. 34, pp. 272-278, Mrach 1940.
- [4] H. Dudley, "The carrier nature of speech," *The Bell System Technical Journal*, vol. 19, pp. 495-515, October 1940.
- [5] L. Page, "The transformation of the hospital call center," *COR Healthcare Market Strategist*,, November 2004.
- [6] R. Cai, B. Zhu, L. Ji, T. Hao, J. Yan and W. Liu, "An CNN-LSTM Attention Approach to Understanding User Query Intent from Online Health Communities," in 2017 IEEE International Conference on Data Mining Workshops (ICDMW), New Orleans, LA, 2017.
- [7] M. A. a. H. A. V. Y. Massalin, "User-Independent Intent Recognition for Lower Limb Prostheses Using Depth Sensing," *IEEE Transactions on Biomedical Engineering*, vol. 65, pp. 1759-1770, Aug. 2018.
- [8] S Kim, J.E Nah, "Workforce planning and deployment for a hospital reservation call center with abandonment cost and multiple tasks," *Computers & Industrial Engineering*, pp. 297-309, June 2013.
- [9] A. Graves, Supervised Sequence Labelling with Recurrent Neural Networks.
- [10] D. Buddhika, R. Liyadipita, S. Nadeeshan, H. Witharana, S. Jayasena and U. Thayasivam, "Voicer: A Crowd Sourcing Tool for Speech Data Collection," in 2018 18th International Conference on Advances in ICT for Emerging Regions (ICTer), Colombo, Sri Lanka, 2018.
- [11] M. Schuster and K. K. Paliwal, "Bidirectional recurrent neural networks," *IEEE Transactions on Signal Processing*, vol. 45, pp. 2673-2681, Nov. 1997.
- [12] L. J. Newville, "Development of the Phonograph at Alexander Graham Bell's Volta Laboratory," [Online]. Available: http://www.gutenberg.org/files/30112/30112-h/30112h.htm. [Accessed 05 August 2020].
- [13] IBM, "Pioneering Speech Recognition," IBM Laboratory, [Online]. Available: https://www.ibm.com/ibm/history/ibm100/us/en/icons/speechreco/breakthroughs/. [Accessed 07 08 2020].
- [14] L. Rabiner, "A Tutorial on Hidden Markov Models and," Proceedings of the IEEE, vol. 77,

pp. 257-286, Feb. 1989.

- [15] L. Rabiner, B. Juang, "An introduction to hidden Markov models," *IEEE ASSP Magazine*, vol. 3, pp. 4-16, Jan. 1986.
- [16] T. Dinushika, L. Kavmini, P. Abeyawardhana, U. Thayasivam and S. Jayasena, "Speech Command Classification System for Sinhala Language based on Automatic Speech Recognition," in 2019 International Conference on Asian Language Processing (IALP), Shanghai, Singapore, 2019.
- [17] G. Hinton et al., "Deep Neural Networks for Acoustic Modeling in Speech Recognition: The Shared Views of Four Research Groups," *IEEE Signal Processing Magazine*, vol. 29, pp. 82-97, Nov. 2012.
- [18] L. Rabiner, B.H Juang, Fundamentals of speech recognition, Division of Simon and Schuster One Lake Street Upper Saddle, River, NJ,United States: Prentice-Hall, Inc., 1993.
- [19] C. K. On, P. M. Pandiyan, S. Yaacob and A. Saudi, "Mel-Frequency Cepstral Coefficient Analysis in Speech Recognition," in 2006 International Conference on Computing & Informatics, Kuala Lumpur, 2006.
- [20] J. Hui, "Speech Recognition Feature Extraction MFCC & PLP," Medium.com, 29 Aug. 2019. [Online]. Available: https://medium.com/@jonathan\_hui/speech-recognition-featureextraction-mfcc-plp-5455f5a69dd9. [Accessed 2020 08 10].
- [21] K. Gupta and D. Gupta, "An analysis on LPC, RASTA and MFCC techniques in Automatic Speech recognition system," in 2016 6th International Conference - Cloud System and Big Data Engineering, Noida, 2016.
- [22] S. J. P. a. Q. Yang, "A Survey on Transfer Learning," *IEEE Transactions on Knowledge* and Data Engineering, vol. vol. 22, pp. 1345-1359, 2010.
- [23] M. A. M. B. T. a. N. W. E. A. Hadhrami, "Transfer learning with convolutional neural networks for moving target classification with micro-Doppler radar spectrograms," in 2018 International Conference on Artificial Intelligence and Big Data (ICAIBD), 2018.
- [24] W. C. Y. Z. C.-C. C. B. Z. E. D. C. Q. V. L. Daniel S. Park, "SpecAugment: A Simple Data Augmentation Method," *Proc. Interspeech*, 2019.
- [25] E. Ma, "Data Augmentation for Audio," Medium.com, 1 Jun 2019. [Online]. Available: https://medium.com/@makcedward/data-augmentation-for-audio-76912b01fdf6. [Accessed 2021].
- [26] T. Zhang, J. H. D. Cho and C. Zhai, "Understanding User Intents in Online Health Forums," IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS, vol. 19, 2015.
- [27] C. Zhang, N. Du, W. Fan, Y. Li, C. Lu, P. S. Yu, "Bringing Semantic Structures to User Intent Detection in Online Medical Queries," in 2017 IEEE International Conference on Big Data (BIGDATA), 2017.
- [28] J. Spitz, "Collection and analysis of data from real users: implications for speech

recognition/understanding systems," in *Speech and Natural Language: Proceedings of a Workshop*, Pacific Grove, California, 1991.

- [29] J. D. Groot, "What is HIPAA Compliance?," DIGITAL GUARDIAN, December 2020. [Online]. Available: https://digitalguardian.com/blog/what-hipaa-compliance. [Accessed 06 2021].
- [30] A. C. A. L. a. H. C. S. Bougrine, "Toward a Web-based Speech Corpus for Algerian Arabic Dialectal Varieties," in *Third Arabic Natural Language Processing Workshop*, 2017.
- [31] Mozilla, "CommonVoice," Mozilla, [Online]. Available: https://commonvoice.mozilla.org/en. [Accessed 05 2021].
- [32] A. W. M. E. a. K. R. I. Lane, "Tools for Collecting Speech Corpora via Mechanical-Turk," in NAACL HLT 2010 Workshop on Creating Speech and Language Data with Amazon's Mechanical Turk, Los Angeles, California, June 2010.
- [33] C. Healthcare, "CHANGE Healthcare," CHANGE Healthcare, [Online]. Available: https://www.changehealthcare.com/insights/6-reasons-patients-call-hospitals. [Accessed 08 2020].
- [34] M. Diamond, "github.com," [Online]. Available: https://github.com/mattdiamond/Recorderjs. [Accessed Feb 2021].
- [35] Google, "Welcome To Colaboratory," Google, [Online]. Available: https://colab.research.google.com/notebooks/intro.ipynb. [Accessed 05 2021].
- [36] Y. Karunanayake, U. Thayasivam and S. Ranathunga, "Sinhala and Tamil Speech Intent Identification From English Phoneme Based ASR," in 2019 International Conference on Asian Language Processing (IALP), Shanghai, Singapore, 2019.
- [37] "https://ai.googleblog.com/," Google, 08 2017. [Online]. Available: https://ai.googleblog.com/2017/08/launching-speech-commands-dataset.html. [Accessed 03 2021].
- [38] M. A. S. L. K.-R. M. W. S. Sören Becker, "Interpreting and Explaining Deep Neural Networks for Classification of Audio Signals," 2019.
- [39] J Zhong, W. Li, "Predicting Customer Call Intent by Analyzing Phone Call Transcripts based on CNN for Multi-Class Classification," arXiv:1907.03715, 2019.
- [40] B. H. Juang , Lawrence R. Rabiner, "Automatic Speech Recognition A Brief History of the Technology Development," 2015.
- [41] Müller, Meinard, Information Retrieval for Music and Motion, 2007.
- [42] S. Kyaagba, "Dynamic Time Warping with Time Series," medium.com, Sep 2018. [Online]. Available: https://medium.com/@shachiakyaagba\_41915/dynamic-time-warping-with-timeseries-1f5c05fb8950. [Accessed 15 08 2020].
- [43] C. Kim et al., "End-to-End Training of a Large Vocabulary End-to-End Speech Recognition System," in 2019 IEEE Automatic Speech Recognition and Understanding Workshop

(ASRU), SG, Singapore, 2019.

- [44] J. Hu, G. Wang, F. Lochovsky, J. Sun, Z. Chen, "Understanding user's query intent with wikipedia," in 18th international conference on World wide web, 2009.
- [45] C. Clerke, E. Agichtein, Q. Guo, "Estimating Ad Clickthrough Rate through Query Intent Analysis," January 2009.
- [46] S. Agarwal, A. Sureka, "But I did not Mean It!- Intent Classification of Racist Posts on Tumblr," in 2016 European Intelligence and Security Informatics Conference, 2016.
- [47] S. Team, "Deep learning for siri's voice: On-device deep mixture density networks for hybrid unit selection synthesis," *Apple Machine Learning Journal*, vol. q, 2017.
- [48] "How amazon Alexa works," channels.theinnovationenterprise.com, [Online]. Available: https://channels.theinnovationenterprise.com/articles/how-amazon-alexa-works. [Accessed 05 09 2020].
- [49] B. Li, T. Sainath, A. Narayanan, J. Caroselli, M. Bacchiani, A. Misra, I. Shafran, H. Sak, G. Pundak, K. Chin et al., "Acoustic modeling for google home,," *INTERSPEECH-2017*, 2017.
- [50] W. L. P. O. J. ZHANG, "Recent Advances in Transfer Learning for Cross-Dataset Visual Recognition: A Problem-Oriented Perspective," ACM Computing Surveys, 2019.
- [51] Y. Karunanayake, U. Thayasivam, S. Ranathunga, "Transfer Learning Based Free-Form Speech Command Classification for Low-Resource Languages," in *Proceedings of the 57th Annual Meeting of the Association for Computational Linguistics: Student Research Workshop*, Florence, Italy, 2019.