

BIBLIOGRAPHY

- Aggarwal, C. C. (2017). *Outlier Analysis* (2nd ed.). Springer International Publishing. <https://doi.org/10.1016/b978-012724955-1/50180-7>
- Apeltsin, L. (2021). *Data Science Bookcamp: Five real-world Python projects*. Manning Publications Co.
- Babacan, K., Chen, L., & Sohn, G. (2017). Semantic Segmentation Of Indoor Point Clouds Using Convolutional Neural Network. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 4(4W4), 101–108. <https://doi.org/10.5194/isprs-annals-IV-4-W4-101-2017>
- Balas, V. E., Kumar, R., & Srivastana, R. (2019). Recent Trends Intelligence and in Artificial and Advances Internet of Things. In *Intelligent Systems Reference Library* (172 ed., Vol. 172). Springer International Publishing. https://doi.org/10.1007/978-3-030-32644-9_22
- Becker, S., Peter, M., Fritsch, D., Philipp, D., Baier, P., & Dibak, C. (2013). Combined Grammar for the Modeling of Building Interiors. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, II-4/WI(December), 1–6. <https://doi.org/10.5194/isprsannals-ii-4-w1-1-2013>
- Beetz, J., & Zlatanova, S. (2012). *3D spatial information infrastructure: The case of Port Rotterdam. June 2014*, 03010. <https://doi.org/10.1051/3u3d/201203010>
- Bello, S. A., Yu, S., Wang, C., Adam, J. M., & Li, J. (2020). Review: Deep learning on 3D point clouds. *Remote Sensing*, 12(11). <https://doi.org/10.3390/rs12111729>
- Boulch, A., Guerry, J., Saux, B. Le, & Audebert, N. (2018). SnapNet: 3D point cloud semantic labeling with 2D deep segmentation networks. *Computers and Graphics (Pergamon)*, 71, 189–198. <https://doi.org/10.1016/j.cag.2017.11.010>
- Boulch, A., Le Saux, B., & Audebert, N. (2017). Unstructured point cloud semantic labeling using deep segmentation networks. *Eurographics Workshop on 3D Object Retrieval, EG 3DOR, 2017-April*, 17–24. <https://doi.org/10.2312/3dor.20171047>
- Brauer, J. (2018). *Introduction to Deep Learning* (1st ed). University of Applied Sciences Kempten. https://doi.org/10.1007/978-3-030-01180-2_2
- Charniak, E. (2018). *Introduction to Deep Learning*. The MIT Press. <https://doi.org/10.1017/CBO9781107415324.004>
- Chehata, N., Guo, L., & Mallet, C. (2009). Airborne LiDAR feature selection for urban classification using random forests. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 398. <https://doi.org/10.13203/j.whugis20130206>
- Chollet, F. (2018). *Deep Learning with Python* (1st ed). Manning Publications Co. <https://doi.org/10.23919/ICIF.2018.8455530>
- Dai, A., & Nießner, M. (2018). 3DMV: Joint 3D-multi-view prediction for 3D semantic scene segmentation. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 11214 LNCS, 458–474. https://doi.org/10.1007/978-3-030-01249-6_28
- Dai, A., Ritchie, D., Bokeloh, M., Reed, S., Sturm, J., & Niebner, M. (2018). ScanComplete: Large-Scale Scene Completion and Semantic Segmentation for 3D Scans. *Proceedings of the IEEE Computer Society Conference on Computer*

- Vision and Pattern Recognition*, 4578–4587.
<https://doi.org/10.1109/CVPR.2018.00481>
- Dalianis, H. (2018). *Clinical text mining: Secondary Use of Electronic Patient Records*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-78503-5>
- Daniel. (2015). *CloudCompare* Wiki.
https://www.cloudcompare.org/doc/wiki/index.php/Main_Page
- Duda, R. O., & Hart, P. E. (1972). Use of the Hough Transformation to Detect Lines and Curves in Pictures. *Communications of the ACM*, 15(1), 11–15.
<https://doi.org/10.1145/361237.361242>
- Engelmann, F., Kontogianni, T., Schult, J., & Leibe, B. (2019). Know what your neighbors do: 3D semantic segmentation of point clouds. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 11131 LNCS, 395–409.
https://doi.org/10.1007/978-3-030-11015-4_29
- Fernández, A., García, S., Galar, M., Prati, R. C., Krawczyk, B., & Herrera, F. (2018). *Learning from Imbalanced Data Sets*. Springer International Publishing.
https://doi.org/10.1007/978-3-319-98074-4_5
- Fischler, M. A., & Bolles, R. C. (1981). RANSAC: Random Sample Paradigm for Model Consensus: A Apphcatlons to Image Fitting with Analysis and Automated Cartography. *Graphics and Image Processing*, 24(6), 381–395.
- Forsyth, D. A., & Ponce, J. (2012). *Computer Vision A Modern Approach* (Second Edi). Pearson Education Inc.
- Grant, D. S. (2013). *Cloud To Cloud Registration for 3D Point Data*.
- Guo, Y., Wang, H., Hu, Q., Liu, H., Liu, L., & Bennamoun, M. (2020). Deep Learning for 3D Point Clouds: A Survey. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 1–1. <https://doi.org/10.1109/tpami.2020.3005434>
- Gupta, P., & Sehgal, N. K. (2021). Introduction to Machine Learning in the Cloud with Python Cocepts and Practices. In *Springer*. Springer International Publishing.
<https://doi.org/10.1007/978-3-030-71270-9>
- Han, X., Dong, Z., & Yang, B. (2021). A point-based deep learning network for semantic segmentation of MLS point clouds. *ISPRS Journal of Photogrammetry and Remote Sensing*, 175(February), 199–214.
<https://doi.org/10.1016/j.isprsjprs.2021.03.001>
- He, H., & Ma, Y. (2013). *Imbalanced Learning: Foundations, Algorithms, and Applications*. John Wiley & Sons, Inc.
- Hope, T., Resheff, Y. S., & Lieder, I. (2017). *Learning TensorFlow A Guide to Building Deep Learning Systems* (Second Rel). O'Reilly Media, Inc., 1005 Gravenstein Highway North, Sebastopol, CA 95472.
- Hossain, M. S., Bujang, J. S., Zakaria, M. H., & Hashim, M. (2015). Assessment of Landsat 7 Scan Line Corrector-off data gap-filling methods for seagrass distribution mapping. *International Journal of Remote Sensing*, 36(4), 1188–1215. <https://doi.org/10.1080/01431161.2015.1007257>
- Hossin, & Sulaiman. (2015). A Review on Evaluation Metrics for Data Classification Evaluations. *International Journal of Data Mining & Knowledge Management Process (IJDKP)*, 5(2), 01–11. <https://doi.org/10.5121/ijdkp.2015.5201>
- Huang, J., & You, S. (2016). Point cloud labeling using 3D Convolutional Neural

- Network. *Proceedings - International Conference on Pattern Recognition*, 0, 2670–2675. <https://doi.org/10.1109/ICPR.2016.7900038>
- Jung, H., Kang, H., & Lee, J. (2016). The Concepts of Level of Detail in 3D Indoor Models. *Proceedings of the FIG Working Week 2016*, 8303. https://www.fig.net/resources/proceedings/2016/2016_3dcadastre/3Dcad_2016_08.pdf.pdf
- Koppula, H. S., Anand, A., Joachims, T., & Saxena, A. (2011). Semantic labeling of 3D point clouds for indoor scenes. *Advances in Neural Information Processing Systems 24: 25th Annual Conference on Neural Information Processing Systems 2011, NIPS 2011*, 1–9.
- Lawin, F. J., Danelljan, M., Tosteberg, P., Bhat, G., Khan, F. S., & Felsberg, M. (2017). Deep Projective 3D Semantic Segmentation. *Computer Analysis of Images and Patterns: 17th International Conference, CAIP*, 95–107. https://doi.org/10.1007/978-3-319-64689-3_8
- Lee, J., Li, K.-J., Zlatanova, S., Kolbe, T. H., Nagel, C., Becker, T., & Kang, H.-Y. (2020). OGC® IndoorGML 1. 2020 Open Geospatial Consortium. <https://docs.ogc.org/is/19-011r4/19-011r4.html>
- Li, K. J. (2016). IndoorGML - A standard for indoor spatial modeling. *International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives*, 41(July), 701–704. <https://doi.org/10.5194/isprsarchives-XLI-B4-701-2016>
- Liu, S., Zhang, M., Kadam, P., & Kuo, C.-C. J. (2021). *3D point cloud analysis : traditional, deep learning, and explainable machine learning methods*. Springer International Publishing.
- Loic, L., & Simonovsky, M. (2018). Large Scale PCSS with Superpoint Graphs. *Computer Vision Paper Research*, 4558–4567. <https://doi.org/10.1109/CVPR.2018.00479>
- Macher, H., Landes, T., & Grussenmeyer, P. (2017). From Point Clouds to Building Information Models: 3D Semi-Automatic Reconstruction of Indoors of Existing Buildings. *Applied Sciences (Switzerland)*, 7(10). <https://doi.org/10.3390/app7101030>
- Mallet, C., Bretar, F., Roux, M., Soergel, U., & Heipke, C. (2011). Relevance assessment of full-waveform lidar data for urban area classification. *ISPRS Journal of Photogrammetry and Remote Sensing*, 66(6 SUPPL.). <https://doi.org/10.1016/j.isprsjprs.2011.09.008>
- Maturana, D., & Scherer, S. (2015). VoxNet: A 3D Convolutional Neural Network for Real-Time Object Recognition. *International Conference on Intelligent Robots and Systems (IROS)*, 922–928. <http://www.thepositiveencourager.global/the-mentoring-approach/>
- Meng, H. Y., Gao, L., Lai, Y. K., & Manocha, Di. (2019). VV-net: Voxel VAE net with group convolutions for point cloud segmentation. *Proceedings of the IEEE International Conference on Computer Vision, 2019-Octob*, 8499–8507. <https://doi.org/10.1109/ICCV.2019.00859>
- Milioto, A., Vizzo, I., Behley, J., & Stachniss, C. (2019). RangeNet ++: Fast and Accurate LiDAR Semantic Segmentation. *IEEE International Conference on Intelligent Robots and Systems*, i, 4213–4220. <https://doi.org/10.1109/IROS40897.2019.8967762>

- Milyutina, M. A. (2018). Introduction of Building Information Modeling (BIM) Technologies in Construction. *Journal of Physics: Conference Series*, 1015(4). <https://doi.org/10.1088/1742-6596/1015/4/042038>
- Mortari, F., Zlatanova, S., Liu, L., Sithole, G., & Zhao, J. (2014). Space subdivision for indoor applications. In *OTB Research Institute for the Built Environment. Delft, Netherlands: Delft University of Technology* (Nomor December). <https://doi.org/10.13140/2.1.2914.2081>
- Müller, A. C., & Guido, S. (2015). Introduction to Machine Learning with Python and Scikit-Learn. In *O'Reilly Media, Inc.* <http://kukuruku.co/hub/python/introduction-to-machine-learning-with-python-andscikit-learn>
- Nguyen, A., & Le, B. (2013). 3D Point Cloud Segmentation: A Survey. *2013 6th IEEE Conference on Robotics, Automation and Mechatronics (RAM)*, 225–230. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6758588%5Cnhttp://www.academia.edu/download/30390112/termpaper2.pdf
- Ning, Z., Tang, L., Qi, S., & Liu, Y. (2022). Deep Learning on 3D Point Cloud for Semantic Segmentation. *Smart Innovation, Systems and Technologies*, 250(September), 275–282. https://doi.org/10.1007/978-981-16-4039-1_27
- Paper, D. (2021). *TensorFlow 2.x in the Colaboratory Cloud* (Apress Publication (ed.)). <https://doi.org/10.1007/978-1-4842-6649-6>
- Qi, C. R., Su, H., Mo, K., & Guibas, L. J. (2017). PointNet: Deep Learning on Point Sets for 3D Classification and Segmentation. *Computer Vision and Pattern Recognition*.
- Qi, C. R., Su, H., Niebner, M., Dai, A., Yan, M., & Guibas, L. J. (2016). Volumetric and multi-view CNNs for object classification on 3D data. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2016-Decem*, 5648–5656. <https://doi.org/10.1109/CVPR.2016.609>
- Rahman, M. A., & Wang, Y. (2016). Optimizing intersection-over-union in deep neural networks for image segmentation. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 10072 LNCS, 234–244. https://doi.org/10.1007/978-3-319-50835-1_22
- Rao, Y., Zhang, M., Cheng, Z., Xue, J., Pu, J., & Wang, Z. (2021). Semantic Point Cloud Segmentation Using Fast Deep Neural Network and DCRF. *Sensors*, 21(8), 1–16. <https://doi.org/10.3390/s21082731>
- Rethage, D., Wald, J., Sturm, J., Navab, N., & Tombari, F. (2018). Fully-Convolutional Point Networks for Large-Scale Point Clouds. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 11208 LNCS, 625–640. https://doi.org/10.1007/978-3-030-01225-0_37
- Rezatofighi, H., Tsoi, N., Gwak, J., Sadeghian, A., Reid, I., & Savarese, S. (2019). Generalized intersection over union: A metric and a loss for bounding box regression. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition, 2019-June*, 658–666. <https://doi.org/10.1109/CVPR.2019.00075>
- Rijsbergen, C. J. Van. (1979). *Information Retrieval* (2nd ed). Butterworths. <https://doi.org/10.1109/ICTP.2017.8285935>

- Sarkar, D., Bali, R., & Ghosh, T. (2018). *Hands-On Transfer Learning with Python: Implement advanced deep learning and neural network models using TensorFlow and Keras*. Packt Publishing Ltd.
- Sarkar, D., Bali, R., & Sharma, T. (2018). *Practical Machine Learning with Python: A Problem-Solver's Guide to Building Real-World Intelligent System*. Apress Publication. <https://doi.org/10.1007/978-1-4842-5121-8>
- Shanmugamani, R. (2018). *Deep Learning for Computer Vision: Expert Techniques to Train Advanced Neural Networks using TensorFlow and Keras*. Packt Publishing Ltd.
- Sharma, C., & Parikh, S. (2022). *Transfer Learning and its Application in Computer Vision : A Review*. March.
- Sokolova, M., Japkowicz, N., & Szpakowicz, S. (2006). Beyond Accuracy, F-score and ROC: a Family of Discriminant Measures for Performance Evaluation. *AI 2006: Advances in Artificial Intelligence*, 1015–1021. http://dx.doi.org/10.1007/11941439_114
- Sokolova, M., & Lapalme, G. (2009). A systematic analysis of performance measures for classification tasks. *Information Processing and Management*, 45(4), 427–437. <https://doi.org/10.1016/j.ipm.2009.03.002>
- Su, H., Maji, S., Kalogerakis, E., & Learned-Miller, E. (2015). Multi-view convolutional neural networks for 3D shape recognition. *Proceedings of the IEEE International Conference on Computer Vision, 2015 Inter*, 945–953. <https://doi.org/10.1109/ICCV.2015.114>
- Suri, N. N. R. R., Murty M, N., & Athithan, G. (2019). *Outlier Detection : Techniques and Applications - A Data Mining Perspective* (J. Kacprzyk & L. C. Jain (ed.); 155 ed.). Springer Nature Switzerland AG.
- Tang, L., Li, L., Ying, S., & Lei, Y. (2018). A full level-of-detail specification for 3D building models combining indoor and outdoor scenes. *ISPRS International Journal of Geo-Information*, 7(11). <https://doi.org/10.3390/ijgi7110419>
- Tchapmi, L., Choy, C., Armeni, I., Gwak, J., & Savarese, S. (2018). SEGCloud: Semantic segmentation of 3D point clouds. *Proceedings - 2017 International Conference on 3D Vision, 3DV 2017*, 537–547. <https://doi.org/10.1109/3DV.2017.00067>
- Torrey, L., & Shavlik, J. (2009). Transfer Learning. In *Handbook of Research on Machine Learning Applications*. IGI Global. <https://doi.org/10.1002/9781119654834.ch13>
- Voulgaris, Z., & Bulut, Y. E. (2018). *AI for Data Science: Artificial Intelligence Frameworks and Functionality for Deep Learning, Optimization, and Beyond* (1th ed). Technics Publication.
- Wani, M. A., Bhat, F. A., Afzal, S., & Khan, A. I. (2019). *Advances in Deep Learning* (Vol. 57). Springer International Publishing. <https://doi.org/10.1007/978-981-13-6794-6>
- Weinmann, M. (2016). Reconstruction and analysis of 3D scenes: From irregularly distributed 3D points to object classes. In *Reconstruction and Analysis of 3D Scenes: From Irregularly Distributed 3D Points to Object Classes*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-29246-5>
- Weinmann, M., Schmidt, A., Mallet, C., Hinz, S., Rottensteiner, F., & Jutzi, B. (2015). Contextual classification of point cloud data by exploiting individual 3D

- neighbourhoods. *ISPRS Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, 2(3W4), 271–278. <https://doi.org/10.5194/isprsannals-II-3-W4-271-2015>
- Weiss, K., Khoshgoftaar, T. M., & Wang, D. D. (2016). A survey of transfer learning. *Journal of Big Data*, 3(1). <https://doi.org/10.1186/s40537-016-0043-6>
- Wu, B., Wan, A., Yue, X., & Keutzer, K. (2018). SqueezeSeg: Convolutional Neural Nets with Recurrent CRF for Real-Time Road-Object Segmentation from 3D LiDAR Point Cloud. *Proceedings - IEEE International Conference on Robotics and Automation*, 1887–1893. <https://doi.org/10.1109/ICRA.2018.8462926>
- Wu, Z., Song, S., Khosla, A., Yu, F., Zhang, L., Tang, X., & Xiao, J. (2015). 3D ShapeNets: A deep representation for volumetric shapes. *Proceedings of the IEEE Computer Society Conference on Computer Vision and Pattern Recognition*, 07-12-June, 1912–1920. <https://doi.org/10.1109/CVPR.2015.7298801>
- Xie, Y., Tian, J., & Zhu, X. X. (2019). Linking Points With Labels in 3D: A Review of Point Cloud Semantic Segmentation. *arXiv, August*.
- Xiong, Z., & Wang, T. (2021). Research on BIM Reconstruction Method Using Semantic Segmentation Point Cloud Data Based on PointNet. *IOP Conference Series: Earth and Environmental Science*, 719(2). <https://doi.org/10.1088/1755-1315/719/2/022042>
- Yan, X. (2019). *Pointnet/Pointnet++ Pytorch*. https://github.com/yanx27/Pointnet_Pointnet2_pytorch. https://github.com/yanx27/Pointnet_Pointnet2_pytorch
- Yang, Q., Zhang, Y., Dai, W., & Pan, S. J. (2020). *Transfer Learning*. Cambridge University Press. <https://doi.org/10.1017/9781139061773>
- Yu, J., Xu, J., Chen, Y., Li, W., Wang, Q., Yoo, B., & Han, J.-J. (2021). Learning Generalized Intersection Over Union for Dense Pixelwise Prediction. *Proceedings of the 38th International Conference on Machine Learning*, 139, 12198–12207.
- Zhang, B., Huang, S., Shen, W., & Wei, Z. (2019). Explaining the pointnet: What has been learned inside the pointnet? *IEEE Computer Society Conference on Computer Vision and Pattern Recognition Workshops*, 2019-June, 71–74.
- Zhang, J., Lin, X., & Ning, X. (2013). SVM-Based classification of segmented airborne LiDAR point clouds in urban areas. *Remote Sensing*, 5(8), 3749–3775. <https://doi.org/10.3390/rs5083749>
- Zhuang, F., Qi, Z., Duan, K., Xi, D., Zhu, Y., Zhu, H., Xiong, H., & He, Q. (2020). A Comprehensive Survey on Transfer Learning. *Proceedings of the IEEE*, 109(1), 43–76. <https://doi.org/10.1109/JPROC.2020.3004555>
- Zlatanova, S., Isikdag, U., & Fine, M. S. (2015). 3D Indoor Models and Their Applications. *Encyclopedia of GIS*, 1–12. <https://doi.org/10.1007/978-3-319-23519-6>
- Zou, Y., Weinacker, H., & Koch, B. (2021). Towards urban scene semantic segmentation with deep learning from lidar point clouds: A case study in baden-württemberg, germany. *Remote Sensing*, 13(16). <https://doi.org/10.3390/rs13163220>