



V. REFERENCES

- Aanaes, H., 2003. *Methods for Structure from Motion*. Informatics and Mathematical Modelling, Technical University of Denmark, Denmark.
- Agarwal, S., Furukawa, Y., Snavely, N., Simon, I., Curless, B., Seitz, S.M., Szeliski, R., 2011. *Building rome in a day*. Communications of the ACM 54, 105–112.
- Alcantarilla, P.F., Bartoli, A., Davison, A.J., 2012. KAZE features, in: Computer Vision—ECCV 2012. Springer, pp. 214–227.
- Andrews, D.P., Bedford, J., Bryan, P.G., 2013. *A Comparison of Laser Scanning and Structure from Motion as Applied to the Great Barn at Harmondsworth*, UK. ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences 1, 31–36.
- Arayici, Y., 2007. *An approach for real world data modelling with the 3D terrestrial laser scanner for built environment*. Automation in Construction 16, 816–829.
- Armbrust, M., Fox, A., Griffith, R., Joseph, A.D., Katz, R., Konwinski, A., Lee, G., Patterson, D., Rabkin, A., Stoica, I., others, 2010. *A view of cloud computing*. Communications of the ACM 53, 50–58.
- Barazzetti, L., Scaioni, M., 2009. *Automatic orientation of image sequences for 3-D object reconstruction: first results of a method integrating photogrammetric and computer vision algorithms*. Proceedings of 3D-ARCH 25–28.
- Bartoš, K., Pukanská, K., Sabová, J., 2014. *Overview of available open-source photogrammetric software, its use and analysis*. Int. J. Innov. Educ. Res 2, 62–70.
- Bell, P., Beer, B., 2014. *Introducing GitHub: A Non-technical Guide*. O'Reilly Media, Inc., California.
- Bergen, J.R., Anandan, P., Hanna, K.J., Hingorani, R., 1992. *Hierarchical model-based motion estimation*, in: Computer Vision—ECCV'92. Springer, pp. 237–252.
- Besl, P.J., McKay, N.D., 1992. *Method for registration of 3-D shapes*, in: Robotics-DL Tentative. International Society for Optics and Photonics, pp. 586–606.
- Bhat, M.A., Shah, R.M., Ahmad, B., 2011. *Cloud Computing: A solution to Geographical Information Systems(GIS)*. International Journal on Computer Science and Engineering 3, 594–600.
- Brahmbhatt, S., 2013. *Practical OpenCV*. Apress, New York.
- Bretz, A., Ihrig, C.J., 2014. *Full stack Javascript development with MEAN*. Sitepoint Press, Australia
- Chacon, S., 2009. *Pro git*. Apress. Springer Science and Business Media, New York, US. Available at: <http://progit.org/book>
- Chandler, J., Fryer, J., 2013. *Autodesk 123D catch: how accurate is it*. Geomatics World 2, 28–30.
- Chandrasekaran, K., 2014. *Essentials of Cloud Computing*. CRC Press, Boca Raton, Florida
- Chen, S., Li, M., Ren, K., 2014. *The power of indoor crowd: Indoor 3D maps from the crowd*, in: 2014 IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS). Presented at the 2014 IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS), pp. 217–218.
doi:10.1109/INFCOMW.2014.6849233



- Chetverikov, D., Svirko, D., Stepanov, D., Krsek, P., 2002. *The trimmed iterative closest point algorithm*, in: Pattern Recognition, 2002. Proceedings. 16th International Conference on. IEEE, pp. 545–548.
- Cui, Z., Jiang, N., Tan, P., 2015. *Linear Global Translation Estimation from Feature Tracks*. arXiv preprint arXiv:1503.01832.
- Dabbish, L., Stuart, C., Tsay, J., Herbsleb, J., 2012. *Social coding in GitHub: transparency and collaboration in an open software repository*, in: Proceedings of the ACM 2012 Conference on Computer Supported Cooperative Work. ACM, pp. 1277–1286.
- Dorninger, P., Pfeifer, N., 2008. *A comprehensive automated 3D approach for building extraction, reconstruction, and regularization from airborne laser scanning point clouds*. Sensors 8, 7323–7343.
- Elwannas, R., Emirates, U.A., 2011. *3D GIS: It's a Brave New World*, In: FIG Working Week 2011 - Bridging Gap between Cultures, Marrakech, Morocco
- Farid, D., 2015. *Angular File Upload*. Available at: <http://github.com/danialfarid/ng-file-upload>
- Fonstad, M.A., Dietrich, J.T., Courville, B.C., Jensen, J.L., Carbonneau, P.E., 2013. *Topographic structure from motion: a new development in photogrammetric measurement*. Earth Surface Processes and Landforms 38, 421–430.
- Förstner, W., 2002. *Computer vision and photogrammetry—mutual questions: geometry, statistics and cognition*. Bildteknik/Image Science, Swedish Society for Photogrammetry and Remote Sensing 151–164.
- Fröhlich, C., Mettenleiter, M., 2004. *Terrestrial laser scanning—new perspectives in 3D surveying*. International archives of photogrammetry, remote sensing and spatial information sciences 36, W2.
- Fuhrmann, S., Goesele, M., 2014. *Floating scale surface reconstruction*. ACM Transactions on Graphics (TOG) 33, 46.
- Fuhrmann, S., Langguth, F., Goesele, M., 2014. *MVE-A Multi-View Reconstruction Environment*, in: Eurographics Workshop on Graphics and Cultural Heritage. The Eurographics Association, pp. 11–18.
- Gackenheimer, C., 2013. *Node.js Recipes: A Problem-Solution Approach*. Apress. Springer Science and Business Media, New York,
- Girardeau-Montaut, D., 2011. *CloudCompare-Open Source project*. OpenSource Project.
- Golparvar-Fard, M., Bohn, J., Teizer, J., Savarese, S., Peña-Mora, F., 2011. *Evaluation of image-based modeling and laser scanning accuracy for emerging automated performance monitoring techniques*. Automation in Construction 20, 1143–1155.
- Green, S., Bevan, A., Shapland, M., 2014. *A comparative assessment of structure from motion methods for archaeological research*. Journal of Archaeological Science 46, 173–181. doi:10.1016/j.jas.2014.02.030
- Grussenmeyer, P., Landes, T., Voegtle, T., Ringle, K., 2008. *Comparison methods of terrestrial laser scanning, photogrammetry and tacheometry data for recording of cultural heritage buildings*, in: ISPRS Congress Proceedings, Beijing. pp. 213–18.
- Haala, N., Kada, M., 2010. *An update on automatic 3D building reconstruction*. ISPRS Journal of Photogrammetry and Remote Sensing, ISPRS Centenary Celebration Issue 65, 570–580. doi:10.1016/j.isprsjprs.2010.09.006
- Hartley, R., others, 1997. *In defense of the eight-point algorithm*. Pattern Analysis and Machine Intelligence, IEEE Transactions on 19, 580–593.



- Hartley, R., Zisserman, A., 2003. *Multiple view geometry in computer vision*. Cambridge university press, Cambridge, UK
- Hassan, M.I., Rahman, A.A., Stoter, J., 2006. *Developing Malaysian 3D Cadastre System—preliminary findings*, in: Innovations in 3D Geo Information Systems. Springer, pp. 519–533.
- Haviv, A.Q., 2014. *MEAN Web Development*. Packt Publishing Ltd, Birmingham, United Kingdom
- Henkel, T., 2014. *Angular Fullstack*. Available at: <http://github.com/DaftMonk/generator-angular-fullstack>
- Hows, D., Membrey, P., Plugge, E., 2014. *MongoDB Basics*, Apress, Springer Science and Business Media, New York, US
- Jancosek, M., Pajdla, T., 2011. *Removing hallucinations from 3D reconstructions*. Technical Report CMP CTU, 2011.
- Jebara, T., Azarbeyjani, A., Pentland, A., 1999. *3D structure from 2D motion*. Signal Processing Magazine, IEEE 16, 66–84.
- Jiang, N., Cui, Z., Tan, P., 2013. *A global linear method for camera pose registration*, in: Computer Vision (ICCV), 2013 IEEE International Conference on. IEEE, pp. 481–488.
- Jiang, N., Tan, P., Cheong, L.-F., 2012. *Seeing double without confusion: Structure-from-motion in highly ambiguous scenes*, in: Computer Vision and Pattern Recognition (CVPR), 2012 IEEE Conference on. IEEE, pp. 1458–1465.
- Kazhdan, M., Bolitho, M., Hoppe, H., 2006. *Poisson surface reconstruction*, in: Proceedings of the Fourth Eurographics Symposium on Geometry Processing.
- Kim, K., Sugiura, T., Torii, A., Sugimoto, S., Okutomi, M., 2013. *Instant Surface Reconstruction for Incremental SfM*, in: Proceedings of the IAPR Conference on Machine Vision Applications (MVA2013). pp. 371–374.
- Kitt, B., Geiger, A., Lategahn, H., 2010. *Visual odometry based on stereo image sequences with ransac-based outlier rejection scheme*, in: Intelligent Vehicles Symposium (IV), 2010 IEEE. IEEE, pp. 486–492.
- Klette, R., Reulke, R., 2005. *Modeling 3D scenes: Paradigm shifts in photogrammetry, remote sensing and computer vision*. CITR, The University of Auckland, New Zealand.
- Klingner, B., Martin, D., Roseborough, J., 2013. *Street View Motion-from-Structure-from-Motion*, in: Computer Vision (ICCV), 2013 IEEE International Conference on. IEEE, pp. 953–960.
- Koutsoudis, A., Vidmar, B., Ioannakis, G., Arnaoutoglou, F., Pavlidis, G., Chamzas, C., 2014. *Multi-image 3D reconstruction data evaluation*. Journal of Cultural Heritage 15, 73–79. doi:10.1016/j.culher.2012.12.003
- Kruppa, E., 1913. *Zur Ermittlung eines Objektes aus zwei Perspektiven mit innerer Orientierung*. Hölder.
- Loeliger, J., McCullough, M., 2012. *Version Control with Git: Powerful tools and techniques for collaborative software development*. O'Reilly Media, Inc.
- Longuet-Higgins, H.C., 1987. *A computer algorithm for reconstructing a scene from two projections*. Readings in Computer Vision: Issues, Problems, Principles, and Paradigms, MA Fischler and O. Firschein, eds 61–62.
- Lowe, D.G., 1999. *Object recognition from local scale-invariant features*, in: The Proceedings of the Seventh IEEE International Conference on Computer Vision, 1999. Presented at the The Proceedings of the Seventh IEEE International Conference on Computer Vision, 1999, pp. 1150–1157 vol.2. doi:10.1109/ICCV.1999.790410



- Marr, D., Poggio, T., 1979. *A computational theory of human stereo vision*. Proceedings of the Royal Society of London B: Biological Sciences 204, 301–328.
- Ma, Y., Soatto, S., Kosecka, J., Sastry, S.S., 2012. *An invitation to 3-d vision: from images to geometric models*. Springer Science & Business Media.
- Mell, P., Grance, T., 2009. *The NIST definition of cloud computing*. National Institute of Standards and Technology 53, 50.
- Micheletti, N., Chandler, J.H., Lane, S.N., 2015. *Structure from Motion (SfM) Photogrammetry*. Geomorphological Techniques, Chap. 2, Sec 2.2. British Society for Geomorphology, UK
- Mikowski, M.S., Powell, J.C., 2013. *Single Page Web Applications*. Manning Publications Co. New York, US
- Miller, M., 2008. *Cloud computing: Web-based applications that change the way you work and collaborate online*. Que publishing. Pearson Education. New Jersey. USA
- Minto, S., Remondino, F., 2014. *Online access and sharing of reality-based 3d models*. SCIRES-IT 4, 17–28.
- Monteiro, F., 2014. *Learning Single-page Web Application Development*. Packt Publishing Ltd. Birmingham, UK
- Moons, T., Van Gool, L., Vergauwen, M., 2009. *3D Reconstruction from Multiple Images*. Now Publishers Inc. Breda, Netherlands
- Moulon, P., Monasse, P., Marlet, R., 2013a. *Global fusion of relative motions for robust, accurate and scalable structure from motion*, in: Computer Vision (ICCV), 2013 IEEE International Conference on. IEEE, pp. 3248–3255.
- Moulon, P., Monasse, P., Marlet, R., 2013b. *Adaptive Structure from Motion with a contrario model estimation*, in: Computer Vision–ACCV 2012. Springer, pp. 257–270.
- Moulon, P., Monasse, P., Marlet, R., 2012. *OpenMVG (open Multiple View Geometry)*. Available at: <http://github.com/openMVG/openMVG>
- Moussa, W., 2014. *Integration of digital photogrammetry and terrestrial laser scanning for cultural heritage data recording*. University of Stuttgart, Netherlands
- Nister, D., 2004. *An efficient solution to the five-point relative pose problem*. IEEE Transactions on Pattern Analysis and Machine Intelligence 26, 756–770. doi:10.1109/TPAMI.2004.17
- Oliensis, J., 2000. *A Critique of Structure-from-Motion Algorithms*. Computer Vision and Image Understanding 80, 172–214. doi:10.1006/cviu.2000.0869
- Panda, S., 2014. *AngularJS: Novice to Ninja*. SitePoint. Melbourne, Australia
- Pollefeys, M., Koch, R., Van Gool, L., 1999. *Self-calibration and metric reconstruction inspite of varying and unknown intrinsic camera parameters*. International Journal of Computer Vision 32, 7–25.
- Pollefeys, M., Koch, R., Vergauwen, M., Van Gool, L., 1998. *Metric 3D surface reconstruction from uncalibrated image sequences*, in: 3D Structure from Multiple Images of Large-Scale Environments. Springer, pp. 139–154.
- Pomaska, G., 2009. *Utilization of photosynth point clouds for 3D object reconstruction*, in: Proceedings of the 22nd CIPA Symposium, Kyoto, Japan.
- Quan, H., Wu, M., 2013. *A Real-Time SFM Method in Augmented Reality*, in: Proceedings of the 2012 International Conference on Information Technology and Software Engineering. Springer, pp. 841–848.
- Rasztovits, S., Dorninger, P., 2013. *Comparison of 3D reconstruction services and terrestrial laser scanning for cultural heritage documentation*. ISPRS-



International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences 1, 513–518.

- Remondino, F., Del Pizzo, S., Kersten, T.P., Troisi, S., 2012. *Low-cost and open-source solutions for automated image orientation—A critical overview*, in: Progress in Cultural Heritage Preservation. Springer, pp. 40–54.
- Remondino, F., El-Hakim, S., 2006. *Image-based 3D Modelling: A Review*. The Photogrammetric Record 21, 269–291.
- Robertson, D.P., Cipolla, R., 2008. *Structure from motion*, in: Practical Image Processing and Computer Vision. Wiley, Blackwell.
- Rossi, A.J., Rhody, H., Salvaggio, C., Walvoord, D.J., 2012. *Abstracted workflow framework with a structure from motion application*, in: Image Processing Workshop (WNYIPW), 2012 Western New York. IEEE, pp. 9–12.
- Schwalbe, E., Maas, H.-G., Seidel, F., 2005. *3D building model generation from airborne laser scanner data using 2D GIS data and orthogonal point cloud projections*. Proceedings of ISPRS WG III/3, III/4 3, 12–14.
- Seitz, S.M., Curless, B., Diebel, J., Scharstein, D., Szeliski, R., 2006. *A Comparison and Evaluation of Multi-View Stereo Reconstruction Algorithms*, in: Computer Vision and Pattern Recognition, 2006 IEEE Computer Society Conference on. IEEE, pp. 519–528. doi:10.1109/CVPR.2006.19
- Seshadri, S., Green, B., 2014. *AngularJS: Up and Running: Enhanced Productivity with Structured Web Apps*. O'Reilly Media, Inc.
- Siegele, L., 2008. *Let it rise: A special report on corporate IT*. Economist Newspaper.
- Sinha, S.N., Steedly, D., Szeliski, R., Agrawala, M., Pollefeys, M., 2008. *Interactive 3D architectural modeling from unordered photo collections*, in: ACM Transactions on Graphics (TOG). ACM, p. 159.
- Soatto, S., Brockett, R., 1998. *Optimal structure from motion: Local ambiguities and global estimates*, in: Computer Vision and Pattern Recognition, 1998. Proceedings. 1998 IEEE Computer Society Conference on. IEEE, pp. 282–288.
- Sohn, G., Dowman, I., 2007. *Data fusion of high-resolution satellite imagery and LiDAR data for automatic building extraction*. ISPRS Journal of Photogrammetry and Remote Sensing 62, 43–63. doi:10.1016/j.isprsjprs.2007.01.001
- Sonka, M., Hlavac, V., Boyle, R., 2014. *Image processing, analysis, and machine vision*. Cengage Learning. Boston, Massachusetts, US
- Stoter, J., 2000. *Considerations for a 3D Cadastre*. TU Delft, The Netherlands 1–18.
- Strecha, C., von Hansen, W., Gool, L.V., Fua, P., Thoennessen, U., 2008. *On benchmarking camera calibration and multi-view stereo for high resolution imagery*, in: Computer Vision and Pattern Recognition, 2008. CVPR 2008. IEEE Conference on. IEEE, pp. 1–8.
- Sweeney, C., Hollerer, T., Turk, M., 2015. *Theia: A Fast and Scalable Structure-from-Motion Library*, in: Proceedings of the 23rd Annual ACM Conference on Multimedia Conference. ACM, pp. 693–696.
- Szeliski, R., 2010. *Computer vision: algorithms and applications*. Springer, London.
- Szeliski, R., Kang, S.B., 1997. *Shape ambiguities in structure from motion*. Pattern Analysis and Machine Intelligence, IEEE Transactions on 19, 506–512.
- Szeliski, R., Kang, S.B., 1994. *Recovering 3D shape and motion from image streams using nonlinear least squares*. Journal of Visual Communication and Image Representation 5, 10–28.
- Tanskanen, P., Kolev, K., Meier, L., Camposeco, F., Saurer, O., Pollefeys, M., 2013. *Live metric 3D reconstruction on mobile phones*, in: Computer Vision (ICCV), 2013 IEEE International Conference on. IEEE, pp. 65–72.



- Thoeni, K., Giacomini, A., Murtagh, R., Kniest, E., 2014. *A comparison of multi-view 3D reconstruction of a rock wall using several cameras and a laser scanner*, in: Proceedings of ISPRS Technical Commission V Symposium, Riva Del Garda, Italy. pp. 23–25.
- Thomas, I., Simoncelli, E., 1994. *Linear structure from motion*. NSF Science and Technology Center for Research in Cognitive Science.
- Thormählen, T., Hasler, N., Wand, M., Seidel, H.-P., 2010. *Registration of sub-sequence and multi-camera reconstructions for camera motion estimation*. Journal of Virtual Reality and Broadcasting 7, 1–10.
- Tomasi, C., Kanade, T., 1992. *Shape and motion from image streams under orthography: a factorization method*. International Journal of Computer Vision 9, 137–154.
- Triggs, B., 1996. *Factorization methods for projective structure and motion*, in: Computer Vision and Pattern Recognition, 1996. Proceedings CVPR'96, 1996 IEEE Computer Society Conference on. IEEE, pp. 845–851.
- Ullman, S., 1979. *The Interpretation of Structure from Motion*. Proc. R. Soc. Lond. B 203, 405–426. doi:10.1098/rspb.1979.0006
- Vergauwen, M., Van Gool, L., 2006. *Web-based 3D reconstruction service*. Machine vision and applications 17, 411–426.
- Vosselman, G., Gorte, B.G., Sithole, G., Rabbani, T., 2004. *Recognising structure in laser scanner point clouds*. International archives of photogrammetry, remote sensing and spatial information sciences 46, 33–38.
- Waechter, M., Moehrle, N., Goesele, M., 2014. *Let There Be Color! Large-Scale Texturing of 3D Reconstructions*, in: Computer Vision–ECCV 2014. Springer, pp. 836–850.
- Wang, H., Shen, S., Lu, X., 2012. *Comparison of the camera calibration between photogrammetry and computer vision*, in: 2012 International Conference on System Science and Engineering (ICSSE). Presented at the 2012 International Conference on System Science and Engineering (ICSSE), pp. 358–362. doi:10.1109/ICSSE.2012.6257207
- Wang, Y.-F., 2011. *A comparison study of five 3D modelling systems based on the sfm principles*. Technical Report 2011-01. Visualize Inc., Goleta, USA.
- Weber, S., 2004. *The success of open source*. Cambridge Univ Press. UK
- Wei, Y., Kang, L., Yang, B., others, 2013. *Applications of structure from motion: a survey*. Journal of Zhejiang University SCIENCE C 14, 486–494.
- Westoby, M.J., Brasington, J., Glasser, N.F., Hambrey, M.J., Reynolds, J.M., 2012. “Structure-from-Motion” photogrammetry: A low-cost, effective tool for geoscience applications. Geomorphology 179, 300–314. doi:10.1016/j.geomorph.2012.08.021
- Yang, C., Goodchild, M., Huang, Q., Nebert, D., Raskin, R., Xu, Y., Bambacus, M., Fay, D., 2011. *Spatial cloud computing: how can the geospatial sciences use and help shape cloud computing?* International Journal of Digital Earth 4, 305–329.
- Zaman, M., 2007. *High precision relative localization using a single camera*, in: Robotics and Automation, 2007 IEEE International Conference on. IEEE, pp. 3908–3914.
- Zhang, Z., 1992. *Iterative point matching for registration of free-form curves*. International Journal of Computer Vision, 13:2, 119-152. Kluwer Academic Publishers, Boston