BIBLIOGRAPHY

[1] C. Chi, X. Sun, N. Xue, T. Li, and C. Liu, "Recent Progress in Technologies for Tactile Sensors," *Sensors (Basel)*, apr 2018.

[2] R. S. Dahiya and M. Valle, *Robotic Tactile Sensing*. Dordrecht: Springer Netherlands, 2013. [Online]. Available: http://link.springer.com/10.1007/978-94-007-0579-1

[3] S. A. Wall and S. Brewster, "Sensory substitution using tactile pin arrays: Human factors, technology and applications," *Signal Processing*, vol. 86, no. 12, pp. 3674–3695, 2006.

[4] M. Park, B. G. Bok, J. H. Ahn, and M. S. Kim, "Recent advances in tactile sensing technology," *Micromachines*, vol. 9, no. 7, 2018.

[5] M. I. Tiwana, S. J. Redmond, and N. H. Lovell, "A review of tactile sensing technologies with applications in biomedical engineering," *Sensors and Actuators, A: Physical*, vol. 179, pp. 17–31, 2012. [Online]. Available: http://dx.doi.org/10.1016/j.sna.2012.02.051

[6] M. Sergio, N. Manaresi, M. Tartagni, R. Guerrieri, and R. Canegallo, "A textile based capacitance pressure sensor," *Ieee*, p. 1625, 2002.

[7] Y. M. Shkel and N. J. Ferrier, "Electrostriction enhancement of solid-state capacitance sensing," *IEEE/ASME Transactions on Mechatronics*, vol. 8, no. 3, pp. 318–325, 2003.

[8] K. Arshak, D. Morris, O. Korostynska, E. Jafer, A. Arshak, J. Harris, S. Clifford, and G. Lyons, "Novel silicone-based capacitive pressure sensors

with high sensitivity for biomedical applications," *E-Polymers*, no. 061, pp. 1–11, 2004.

[9] C. T. Ko, S. H. Tseng, and M. S. Lu, "A CMOS micromachined capacitive tactile sensor with high-frequency output," *Journal of Microelectromechanical Systems*, vol. 15, no. 6, pp. 1708–1714, 2006.

[10] T. Salo, T. Vančura, and H. Baltes, "CMOS-sealed membrane capacitors for medical tactile sensors," *Journal of Micromechanics and Microengineering*, vol. 16, no. 4, pp. 769–778, 2006.

[11] A. Schmitz, M. Maggiali, M. Randazzo, L. Natale, and G. Metta, "A prototype fingertip with high spatial resolution pressure sensing for the robot iCub," *2008 8th IEEE-RAS International Conference on Humanoid Robots, Humanoids 2008*, pp. 423–428, 2008.

[12] A. Shashank, M. I. Tiwana, S. J. Redmond, and N. H. Lovell, "Design, simulation and fabrication of a low cost capacitive tactile shear sensor for a robotic hand," *Proceedings of the 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society: Engineering the Future of Biomedicine, EMBC 2009*, pp. 4132–4135, 2009.

[13] C. C. Chen, P. Z. Chang, and W. P. Shih, "Flexible tactile sensor with high sensitivity utilizing botanical epidermal cell natural micro-structures," *Proceedings of IEEE Sensors*, pp. 0–3, 2012.

[14] J. A. Dobrzynska and M. A. M. Gijs, "Polymer-based flexible capacitive sensor for three-axial force measurements," *Journal of Micromechanics and Microengineering*, vol. 23, no. 1, p. 015009, jan 2013. [Online]. Available: http://stacks.iop.org/0960-1317/23/i=1/a=015009?key=crossref.a8ead82b12ca40867badfbdba79653f2

[15] B. C.-K. Tee, A. Chortos, R. R. Dunn, G. Schwartz, E. Eason, and Z. Bao, "Tunable Flexible Pressure Sensors using Microstructured

Elastomer Geometries for Intuitive Electronics," *Advanced Functional Materials*, vol. 24, no. 34, pp. 5427–5434, sep 2014. [Online]. Available: http://doi.wiley.com/10.1002/adfm.201400712

[16] G. Liang, Y. Wang, D. Mei, K. Xi, and Z. Chen, "Flexible Capacitive Tactile Sensor Array with Truncated Pyramids as Dielectric Layer for Three-Axis Force Measurement," *Journal of Microelectromechanical Systems*, vol. 24, no. 5, pp. 1510–1519, 2015.

[17] A. Charalambides and S. Bergbreiter, "A novel all-elastomer MEMS tactile sensor for high dynamic range shear and normal force sensing," *Journal of Micromechanics and Microengineering*, vol. 25, no. 9, p. 95009, 2015. [Online]. Available: http://dx.doi.org/10.1088/0960-1317/25/9/095009

[18] A. Rana, J. P. Roberge, and V. Duchaine, "An Improved Soft Dielectric for a Highly Sensitive Capacitive Tactile Sensor," *IEEE Sensors Journal*, vol. 16, no. 22, pp. 7853–7863, 2016.

[19] S. Denei, P. Maiolino, E. Baglini, and G. Cannata, "Development of an Integrated Tactile Sensor System for Clothes Manipulation and Classification Using Industrial Grippers," *IEEE Sensors Journal*, vol. 17, no. 19, pp. 6385–6396, 2017.

[20] T. Paulino, P. Ribeiro, M. Neto, S. Cardoso, A. Schmitz, J. Santos-Victor, A. Bernardino, and L. Jamone, "Low-cost 3-axis soft tactile sensors for the human-friendly robot Vizzy," in *2017 IEEE International Conference on Robotics and Automation (ICRA)*, may 2017, pp. 966–971.

[21] P. J. Kyberd and P. H. Chappell, "A force sensor for automatic manipulation based on the Hall effect," *Measurement Science and Technology*, vol. 4, no. 3, pp. 281–287, 1993.

[22] L. Jamone, L. Natale, G. Metta, and G. Sandini, "Highly Sensitive Soft Tactile Sensors for an Anthropomorphic Robotic Hand," *IEEE Sensors Journal*, vol. 15, no. 8, pp. 4226–4233, aug 2015.

[23] A. Alfadhel and J. Kosel, "Magnetic Nanocomposite Cilia Tactile Sensor," *Advanced Materials*, vol. 27, no. 47, pp. 7888–7892, dec 2015. [Online]. Available: http://doi.wiley.com/10.1002/adma.201504015

[24] D. Li and K. Shida, "Monostructure touch sensor with multifunction for discrimination of material properties," *Electrical Engineering in Japan (English translation of Denki Gakkai Ronbunshi)*, vol. 117, no. 3, pp. 68–75, 1996.

[25] N. Futai, N. Futai, K. Matsumoto, and I. Shimoyama, "A flexible micromachined planar spiral inductor for use as an artificial tactile mechanoreceptor," *Sensors and Actuators, A: Physical*, vol. 111, no. 2-3, pp. 293–303, 2004.

[26] X. Chen, S. Yang, and S. Motojima, "Preparation and property of novel CMC tactile sensors," *Sensors And Actuators*, vol. 2, no. 2, pp. 289–292, 2005.

[27] X. Chen, S. Yang, M. Hasegawa, K. Takeuchi, K. Kawabe, and S. Motojima, "Novel Tactile Sensors Manufactured by Carbon Microcoils," in *2004 International Conference on MEMS, NANO and Smart Systems (ICMENS'04)*, no. Cmc. IEEE, 2006, pp. 486–491. [Online]. Available: http://ieeexplore.ieee.org/document/1508998/

[28] X. Chen, J. Sakai, S. Yang, and S. Motojima, "Biomimetic Tactile Sensors with Fingerprint-Type Surface Made of Carbon Microcoils/Polysilicone," *Japanese Journal of Applied Physics*, vol. 45, no. No. 37, pp. L1019–L1021, sep 2006. [Online]. Available: http://stacks.iop.org/1347-4065/45/L1019

[29] S. Motojima and X. Chen, "Preparation and characterization of carbon microcoils (CMCs)," *Bulletin of the Chemical Society of Japan*, vol. 80, no. 3, pp. 449–455, 2007.

[30] S. Takenawa, "A soft three-axis tactile sensor based on electromagnetic induction," *IEEE 2009 International Conference on Mechatronics, ICM 2009*, no. April, 2009.

[31] S. Wattanasarn, K. Noda, K. Matsumoto, and I. Shimoyama, "3D flexible tactile sensor using electromagnetic induction coils," in *2012 IEEE 25th International Conference on Micro Electro Mechanical Systems (MEMS).* IEEE, jan 2012, pp. 488–491. [Online]. Available: http://ieeexplore.ieee.org/document/6170230/

[32] M. Ohka, Y. Mitsuya, I. Higashioka, and H. Kabeshita, "An experimental optical three-axis tactile sensor for micro-robots," *Robotica*, vol. 23, no. 4, pp. 457–465, 2005.

[33] P. Piacenza, W. Dang, E. Hannigan, J. Espinal, I. Hussain, I. Kymissis, and M. Ciocarlie, "Accurate contact localization and indentation depth prediction with an optics-based tactile sensor," *Proceedings - IEEE International Conference on Robotics and Automation*, pp. 959–965, 2017.

[34] A. Massaro, F. Spano, P. Cazzato, C. La Tegola, R. Cingolani, and A. Athanassiou, "Robot tactile sensing: Gold nanocomposites as highly sensitive real-time optical pressure sensors," *IEEE Robotics and Automation Magazine*, vol. 20, no. 2, pp. 82–90, 2013.

[35] M. Ohka, H. Kobayashi, and Y. Mitsuya, "Sensing characteristics of an optical three-axis tactile sensor mounted on a multi-fingered robotic hand," *2005 IEEE/RSJ International Conference on Intelligent Robots and Systems, IROS*, vol. 22, pp. 1959–1964, 2005.

[36] D. Z. Tan, Q. M. Wang, R. H. Song, X. Yao, and Y. H. Gu, "Optical fiber based slide tactile sensor for underwater robots," *Journal of Marine Science and Application*, vol. 7, no. 2, pp. 122–126, 2008.

[37] H. Kobayashi, H. B. Yussof, N. Morisawa, J. Takata, H. Suzuki, and M. Ohka, "Object exploration and manipulation using a robotic finger

equipped with an optical three-axis tactile sensor," *Robotica*, pp. 3425–3430, 2008.

[38] N. F. Lepora and B. Ward-Cherrier, "Tactile Quality Control With Biomimetic Active Touch," *IEEE Robotics and Automation Letters*, vol. 1, no. 2, pp. 646–652, 2016.

[39] M. OHKA, H. KOBAYASHI, J. TAKATA, and Y. MITSUYA, "An Experimental Optical Three-Axis Tactile Sensor Featured with Hemispherical Surface," *Transactions of the Japan Society of Mechanical Engineers Series C*, vol. 74, no. 742, pp. 1477–1484, 2011.

[40] R. Windecker, S. Franz, and H. J. Tiziani, "Optical roughness measurements with fringe projection," *Applied Optics*, vol. 38, no. 13, p. 2837, 2008.

[41] H. Xie, A. Jiang, L. Seneviratne, and K. Althoefer, "Pixel-based optical fiber tactile force sensor for robot manipulation," in *2012 IEEE Sensors*. IEEE, oct 2012, pp. 1–4. [Online]. Available: http://ieeexplore.ieee.org/document/6411462/

[42] R. Ahmadi, M. Packirisamy, J. Dargahi, and R. Cecere, "Discretely loaded beam-type optical fiber tactile sensor for tissue manipulation and palpation in minimally invasive robotic surgery," *IEEE Sensors Journal*, vol. 12, no. 1, pp. 22–32, 2012.

[43] E. Fujiwara, F. D. Paula, Y. T. Wu, M. F. M. Santos, E. A. Schenkel, and C. K. Suzuki, "Optical fiber tactile sensor based on fiber specklegram analysis," *25th International Conference on Optical Fiber Sensors*, vol. 10323, p. 103232N, 2017.

[44] J. H. Kim, J. I. Lee, H. J. Lee, Y. K. Park, M. S. Kim, and D. I. Kang, "Design of flexible tactile sensor based on three-component force and its," *Proceedings - IEEE International Conference on Robotics and Automation*, vol. 2005, no. April, pp. 2578–2581, 2005.

[45] K. Kim, K. R. Lee, W. H. Kim, K. B. Park, T. H. Kim, J. S. Kim, and J. J. Pak, "Polymer-based flexible tactile sensor up to 32 × 32 arrays integrated with interconnection terminals," *Sensors and Actuators, A: Physical*, vol. 156, no. 2, pp. 284–291, 2009.

[46] Y. Tanaka, M. Tanaka, and S. Chonan, "Development of a sensor system for collecting tactile information," *Microsystem Technologies*, vol. 13, no. 8-10, pp. 1005–1013, 2007.

[47] C. Li, P. M. Wu, S. Lee, A. Gorton, M. J. Schulz, and C. H. Ahn, "Flexible dome and bump shape piezoelectric tactile sensors using PVDF-TrFE copolymer," *Journal of Microelectromechanical Systems*, vol. 17, no. 2, pp. 334–341, 2008.

[48] K. Takashima, S. Horie, T. Mukai, K. Ishida, and K. Matsushige, "Piezoelectric properties of vinylidene fluoride oligomer for use in medical tactile sensor applications," *Sensors and Actuators, A: Physical*, vol. 144, no. 1, pp. 90–96, 2008.

[49] S. Sokhanvar, M. Packirisamy, and J. Dargahi, "A multifunctional PVDF-based tactile sensor for minimally invasive surgery," *Smart Materials and Structures*, vol. 16, no. 4, pp. 989–998, 2007.

[50] M. A. Qasaimeh, S. Sokhanvar, J. Dargahi, and M. Kahrizi, "PVDF-based microfabricated tactile sensor for minimally invasive surgery," *Journal of Microelectromechanical Systems*, vol. 18, no. 1, pp. 195–207, 2009.

[51] L. Z.-z. XI Xu-gang, "A Tele-manipulator with Tactile Tele-presence and Myoelectric Bionic Control," *ROBOT*, vol. 0446, no. 31(3), pp. 270–275, 2009.

[52] N. Wettels, D. Popovic, V. J. Santos, R. S. Johansson, and G. E. Loeb, "Biomimetic tactile sensor for control of grip," *2007 IEEE 10th International Conference on Rehabilitation Robotics, ICORR'07*, vol. 00, no. c, pp. 923–932, 2007.

[53] W. Liu, P. Yu, C. Gu, X. Cheng, and X. Fu, "Fingertip Piezoelectric Tactile Sensor Array for Roughness Encoding Under Varying Scanning Velocity," *IEEE Sensors Journal*, vol. 17, no. 21, pp. 6867–6879, nov 2017. [Online]. Available: http://ieeexplore.ieee.org/document/7962146/

[54] Y. Zhang and N. Miki, "Erratum: Sensitivity enhancement of a micro-scale biomimetic tactile sensor with epidermal ridges (Journal of Micromechanics and Microengineering (2010) 20 (085012))," *Journal of Micromechanics and Microengineering*, vol. 20, no. 12, 2010.

[55] F. Maita, L. Maiolo, A. Minotti, A. Pecora, D. Ricci, G. Metta, G. Scandurra, G. Giusi, C. Ciofi, and G. Fortunato, "Ultraflexible Tactile Piezoelectric Sensor Based on Low-Temperature Polycrystalline Silicon Thin-Film Transistor Technology," *IEEE Sensors Journal*, vol. 15, no. 7, pp. 3819–3826, jul 2015. [Online]. Available: http://ieeexplore.ieee.org/document/7029628/

[56] M. Sim, Y. Jeong, K. Lee, K. Shin, H. Park, J. I. Sohn, S. N. Cha, and J. E. Jang, "Psychological tactile sensor structure based on piezoelectric sensor arrays," in *2017 IEEE World Haptics Conference, WHC 2017*. IEEE, jun 2017, pp. 340–345. [Online]. Available: http://ieeexplore.ieee.org/document/7989925/

[57] L. Seminara, L. Pinna, M. Valle, L. Basirico, A. Loi, P. Cosseddu, A. Bonfiglio, A. Ascia, M. Biso, A. Ansaldo, D. Ricci, and G. Metta, "Piezoelectric Polymer Transducer Arrays for Flexible Tactile Sensors," *IEEE Sensors Journal*, vol. 13, no. 10, pp. 4022–4029, oct 2013. [Online]. Available: http://ieeexplore.ieee.org/document/6531646/

[58] R. Kumar, U. Mehta, and P. Chand, "A Low Cost Linear Force Feedback Control System for a Two-fingered Parallel Configuration Gripper," *Procedia Computer Science*, vol. 105, no. December 2016, pp. 264–269, 2017. [Online]. Available: http://dx.doi.org/10.1016/j.procs.2017.01.220

[59] X. Liu, Y. Zhu, M. W. Nomani, X. Wen, T. Y. Hsia, and G. Koley, "A highly sensitive pressure sensor using a Au-patterned polydimethylsiloxane membrane for biosensing applications," *Journal of Micromechanics and Microengineering*, vol. 23, no. 2, 2013.

[60] R. Kilaru, Z. Celik-Butler, D. P. Butler, and I. E. Gonenli, "NiCr MEMS tactile sensors embedded in polyimide toward smart skin," *Journal of Microelectromechanical Systems*, vol. 22, no. 2, pp. 349–355, 2013.

[61] C. C. Wen and W. Fang, "Tuning the sensing range and sensitivity of three axes tactile sensors using the polymer composite membrane," *Sensors and Actuators, A: Physical*, vol. 145-146, no. 1-2, pp. 14–22, 2008.

[62] Y. Hu, R. B. Katragadda, H. Tu, Q. Zheng, Y. Li, and Y. Xu, "Bioinspired 3-D tactile sensor for minimally invasive surgery," *Journal of Microelectromechanical Systems*, vol. 19, no. 6, pp. 1400–1408, 2010.

[63] S. Pyo, J. I. Lee, M. O. Kim, T. Chung, Y. Oh, S. C. Lim, J. Park, and J. Kim, "Development of a flexible three-axis tactile sensor based on screen-printed carbon nanotube-polymer composite," *Journal of Micromechanics and Microengineering*, vol. 24, no. 7, 2014.

[64] M. C. Hsieh, Y. K. Fang, M. S. Ju, G. S. Chen, J. J. Ho, C. H. Yang, P. M. Wu, G. S. Wu, and T. Y. F. Chen, "A contact-type piezoresistive micro-shear stress sensor for above-knee prosthesis application," *Journal of Microelectromechanical Systems*, vol. 10, no. 1, pp. 121–127, 2001.

[65] K. Noda, H. Onoe, E. Iwase, K. Matsumoto, and I. Shimoyama, "Flexible tactile sensor for shear stress measurement using transferred sub-μm-thick Si piezoresistive cantilevers," *Journal of Micromechanics and Microengineering*, vol. 22, no. 11, 2012.

[66] A. Drimus, G. Kootstra, A. Bilberg, and D. Kragic, "Design of a flexible tactile sensor for classification of rigid and deformable objects," *Robotics*

and Autonomous Systems, vol. 62, no. 1, pp. 3–15, 2014. [Online]. Available: http://dx.doi.org/10.1016/j.robot.2012.07.021

[67] Y. Hasegawa, M. Shikida, T. Shimizu, T. Miyaji, H. Sasaki, K. Sato, and K. Itoigawa, "Amicromachined active tactile sensor for hardness detection," *Sensors and Actuators, A: Physical*, vol. 114, no. 2-3, pp. 141–146, 2004.

[68] P. Piacenza, Y. Xiao, S. Park, I. Kymissis, and M. Ciocarlie, "Contact localization through spatially overlapping piezoresistive signals," *IEEE International Conference on Intelligent Robots and Systems*, vol. 2016-Novem, pp. 195–201, 2016.

[69] C. Schurmann, R. K˜oiva, R. Haschke, and H. Ritter, "A modular high-speed tactile sensor for human manipulation research," in *2011 IEEE World Haptics Conference*. IEEE, jun 2011, pp. 339–344. [Online]. Available: http://ieeexplore.ieee.org/document/5945509/

[70] G. Westheimer, "Optical superresolution and visual hyperacuity," *Progress in Retinal and Eye Research*, vol. 31, no. 5, pp. 467–480, 2012. [Online]. Available: http://dx.doi.org/10.1016/j.preteyeres.2012.05.001

[71] D. J. Van Den Heever, K. Schreve, and C. Scheffer, "Tactile sensing using force sensing resistors and a super-resolution algorithm," *IEEE Sensors Journal*, vol. 9, no. 1, pp. 29–35, 2009.

[72] N. F. Lepora, U. Martinez-Hernandez, M. Evans, L. Natale, G. Metta, and T. J. Prescott, "Tactile Superresolution and Biomimetic Hyperacuity," *IEEE Transactions on Robotics*, vol. 31, no. 3, pp. 605–618, jun 2015. [Online]. Available: http://ieeexplore.ieee.org/document/7078841/

[73] O. K. Bruno Siciliano, "Springer handbook of robotics," *Choice Reviews Online*, vol. 46, no. 06, pp. 46–3272–46–3272, feb 2009. [Online]. Available: http://choicereviews.org/review/10.5860/CHOICE.46-3272

[74] G. J. Monkman, S. Hesse, R. Steinmann, and H. Schunk, *Robot Grippers*. Wiley, oct 2006. [Online]. Available: https://onlinelibrary.wiley.com/doi/book/10.1002/9783527610280

[75] J. Krüger, T. K. Lien, and A. Verl, "Cooperation of human and machines in assembly lines," *CIRP Annals - Manufacturing Technology*, vol. 58, no. 2, pp. 628–646, 2009.

[76] G. Fantoni, M. Santochi, G. Dini, K. Tracht, B. Scholz-Reiter, J. Fleischer, T. Kristoffer Lien, G. Seliger, G. Reinhart, J. Franke, H. Nørgaard Hansen, and A. Verl, "Grasping devices and methods in automated production processes," *CIRP Annals - Manufacturing Technology*, vol. 63, no. 2, pp. 679–701, 2014. [Online]. Available: http://dx.doi.org/10.1016/j.cirp.2014.05.006

[77] A. Bertelsen, J. Melo, E. Sánchez, and D. Borro, "A review of surgical robots for spinal interventions," *The International Journal of Medical Robotics and Computer Assisted Surgery*, vol. 9, no. 4, pp. 407–422, dec 2013. [Online]. Available: http://doi.wiley.com/10.1002/rcs.1469

[78] G. Hirzinger, B. Brunner, K. Landzettel, and J. Schott, "Preparing a new generation of space robots - A survey of research at DLR," *Robotics and Autonomous Systems*, vol. 23, no. 1-2, pp. 99–106, 1998.

[79] K. Tai, A.-R. El-Sayed, M. Shahriari, M. Biglarbegian, and S. Mahmud, "State of the Art Robotic Grippers and Applications," *Robotics*, vol. 5, no. 2, p. 11, 2016.

[80] S. Raval and B. Patel, "A Review on Grasping Principle and Robotic Grippers," *International Journal of Engineering Development and Research*, vol. 4, no. December, pp. 483–490, 2016.

[81] "2 Jaw Penumatic Gripper - KG SCHUNK GmbH & Co." Germany, 2019. [Online]. Available: http://www.directindustry.com/prod/schunk/product-12463-551794.html

[82] "3 Jaw Pnuematic Gripper - KG SCHUNK GmbH & Co." Germany, 2019. [Online]. Available: http://www.directindustry.com/prod/schunk-gmbh-co-kg/product-7038-1841232.html

[83] R. J. Ellwood, A. Raatz, and J. Hesselbach, "Vision and force sensing to decrease assembly uncertainty," *IFIP Advances in Information and Communication Technology*, vol. 315, pp. 123–130, 2010.

[84] A. I. Elizarov and N. G. Shein, "The use of production robots in the production of plate heat exchangers," *Chemical and Petroleum Engineering*, vol. 18, no. 2, pp. 54–56, feb 1982. [Online]. Available: http://link.springer.com/10.1007/BF01176531

[85] S. Yu and M. Gil, "Manipulator handling device for assembly of large-size panels," *Assembly Automation*, vol. 32, no. 4, pp. 361–372, 2012.

[86] G. J. Monkman, "Automated handling of packaging materials," 1993, pp. 16–19.

[87] "Efficient robotic packing speeds soft drinks manufacture," *Industrial Robot: An International Journal*, vol. 29, no. 3, p. ir.2002.04929caf.005, jun 2002. [Online]. Available: https://doi.org/10.1108/ir.2002.04929caf.005http://www.emeraldinsight.com/doi/10.1108/ir.2002.04929caf.005

[88] A. H. Zahraee, J. K. Paik, J. Szewczyk, and G. Morel, "Toward the development of a hand-held surgical robot for laparoscopy," *IEEE/ASME Transactions on Mechatronics*, vol. 15, no. 6, pp. 853–861, 2010.

[89] G. Rateni, M. Cianchetti, G. Ciuti, A. Menciassi, and C. Laschi, "Design and development of a soft robotic gripper for manipulation in minimally invasive surgery: a proof of concept," *Meccanica*, vol. 50, no. 11, pp. 2855–2863, 2015.

[90] J.-H. Low, I. Delgado-Martinez, and C.-H. Yeow, "Customizable Soft Pneumatic Chamber–Gripper Devices for Delicate Surgical Manipulation," *Journal of Medical Devices*, vol. 8, no. 4, p. 044504, 2014.

[91] E. Gultepe, J. S. Randhawa, S. Kadam, S. Yamanaka, F. M. Selaru, E. J. Shin, A. N. Kalloo, and D. H. Gracias, "Biopsy with thermally-responsive untethered microtools," *Advanced Materials*, vol. 25, no. 4, pp. 514–519, 2013.

[92] G. Tortora, T. Ranzani, I. De Falco, P. Dario, and A. Menciassi, "A Miniature Robot for Retraction Tasks under Vision Assistance in Minimally Invasive Surgery," *Robotics*, vol. 3, no. 1, pp. 70–82, 2014.

[93] U. Kim, D. H. Lee, W. J. Yoon, B. Hannaford, and H. R. Choi, "Force Sensor Integrated Surgical Forceps for Minimally Invasive Robotic Surgery," *IEEE Transactions on Robotics*, vol. 31, no. 5, pp. 1214–1224, 2015.

[94] R. B. Kelley, J. R. Birk, H. A. Martins, and R. Tella, "A Robot System Which Acquires Cylindrical Workpieces from Bins," *IEEE Transactions on Systems, Man and Cybernetics*, vol. 12, no. 2, pp. 204–213, 1982.

[95] V. A. Sujan, S. Dubowsky, and Y. Ohkami, "Robotic Manipulation of Highly Irregular Shaped Objects: Application to a Robot Crucible Packing System for Semiconductor Manufacture," *Journal of Manufacturing Processes*, vol. 4, no. 1, pp. 1–15, jan 2002. [Online]. Available: https://linkinghub.elsevier.com/retrieve/pii/S1526612502701291

[96] S. I. Cho, S. J. Chang, Y. Y. Kim, and K. J. An, "Development of a three-degrees-of-freedom robot for harvesting lettuce using machine vision and fuzzy logic control," *Biosystems Engineering*, vol. 82, no. 2, pp. 143–149, 2002.

[97] K. Tanigaki, T. Fujiura, A. Akase, and J. Imagawa, "Cherry-harvesting robot," *Computers and Electronics in Agriculture*, vol. 63, no. 1, pp. 65–72, 2008.

[98] E. Ramsden, *Hall-Effect Sensors: Theory and Application.* Elsevier Science, may 2006.

[99] "Smooth-On, Inc. (2018). Mold Max™ 40 Product Information," https://www.smooth-on.com/products/mold-max-40/.

[100] "Smooth-On, Inc. (2018). Dragon Skin® FX- Pro Product Information," https://www.smooth-on.com/products/dragon-skin-fx-pro/.

[101] "Sensing.honeywell.com. (2018). SS39ET/SS49E/SS59ET Series Linear Hall-effect Sensor ICs," https://sensing.honeywell.com/index.php?ci_id=50359.

[102] "Electromagnetic Simulation Software," https://www.emworks.com/.

[103] "Teensy 3.6 Datasheet," https://www.pjrc.com/teensy/card9a_rev1.pdf.

[104] "LM324 Datasheet," http://www.ti.com/lit/ds/symlink/lm124-n.pdf.

[105] O. N. Testometric - Unit 1, Lincoln Business Park Lincoln Close, Rochdale, "Testometric Universal Testing Machine - 10kN." [Online]. Available: https://www.testometric.co.uk/10kn/

[106] T. E. Gould, M. Jesunathadas, S. Nazarenko, and S. G. Piland, "Mouth Protection in Sports," in *Materials in Sports Equipment.* Elsevier, 2019, pp. 199–231. [Online]. Available: https://linkinghub.elsevier.com/retrieve/pii/B978008102582600006X