Biodata

1. Name, Address, Gender, Date of Birth, Institution's Address, Email & Mobile no etc.

Name	:	Dr. B B V L Deepak
Address	:	Qtr. No. FRA/508, National Institute of Technology, Rourkela
Gender	:	Male
Designation	:	Asso. Professor
Department	:	Department of Industrial Design
Institution	:	National Institute of Technology, Rourkela
Email	:	bbv@nitrkl.ac.in; deepak.bbvl@gmail.com
Phone	:	0661 246 – 2855(o),

2. Academic Qualifications

- **M.Tech.** **:** Mechanical Engineering, Machine Design &Analysis, N.I.T. Rourkela, 2010
- **Ph.D.** **:** Mechanical Engineering, N.I.T. Rourkela, 2015

Details of the Ph.D. Work:

Title: Design and Development of an Automated Mobile Manipulator for Industrial Applications

Guide: Dr. Dayal R. Parhi, Professor(HAG), Department of Mechanical Engineering, NIT Rourkela

3. Areas of Interest

- Mechatronics
- Industrial Robots
- Design for Manufacturing
- Design for Assembly
- CAD/CAM

4. Positions held earlier: (in reverse chronological order)

S.No.	Position and Organisation	Nature of Job	Period
1	**Asst. Professor Grade-II** Department of Industrial Design. National Institute of Technology – Rourkela	Teaching & Research	Dec.2011 – Feb.2020
2	**Head of the Department** Department of Industrial Design. National Institute of Technology – Rourkela	Administration	July 2018 – June 2021
3	**Asst. Professor Grade-I** Department of Industrial Design. National Institute of Technology - Rourkela	Teaching & Research	Feb.2020 – June 2024
4	**Associate Professor** Department of Industrial Design. National Institute of Technology - Rourkela	Teaching & Research	July.2024 - Present

5. List of Projects undertaken (completed/ ongoing)

S.No	Title	Amount (INR)	Agency	Status
1	Development of laser sensor based robotic welding for producing quality welded joints	39,43,900	BRNS	Completed
2	Development of an Intelligent Drone System for Pesticide Spraying Application in Precession Agriculture	19,20,000	DST	Completed
3	Intelligent Traffic control system	10,00,000	Dept. of Planning & Convergence, Govt. of Odisha	Ongoing
4	Automation of engine and stage integration activities in assembly and test facilities area	10,00,000	ISRO (RESPOND)s	Ongoing

6. Awards & Recognitions

- Received award for the technical paper presentation entitled "Chronological Developments of Technology Innovations" on the occasion of National Technology Day.
- Received *GANESH MISHRA MEMORIAL AWARD* by IEI-Odisha center for the research work entitled 'Application of fuzzy-regression and NSGA-II based hybrid approach to gate optimal welding conditions for robotic are welding' in the year-2019.
- Received *Merit certificate for the research work* 'A new safety design of the ceiling fan to avoid suicidal cases' in ICoRD 2019 held at IISc, Bangalore during 9th-11th January 2019.
- Received "*IEI Young Engineers Award 2017-2018*" in Mechanical Engineering Division.
- Received *BRUNDABAN SAHU MEMORIAL AWARD* by IEI-Odisha centre for the research work entitled 'An Intelligent strategy for automated assembly sequence planning while considering DFA concept' Year:2017
- Received *Early Career Research Award* for the research project titled "Development of an Intelligent Drone System for Pesticide Spraying Application in Precession Agriculture" by SERB, Government of India
- *Best Paper Award* for 'Optimal assembly sequence planning towards design for assembly' in IcoRD-2017 held at IIT-Guwahati during 9th-11th January 2017.
- Received *First prize with Gold Medal & Cash award* for the paper 'Development of GPS-Immune Based Path Following Vehicular System for Transportation Purpose in NIT-Rourkela.' Awarded by: IEI-Odisha centre. Year:2016
- Selected for *CSIR Senior Research Fellowship at NIT Rourkela* for sponsored project "control of multiple mobile agents using adaptive neuro fuzzy inference system (ANFIS)"
- Stood 1ST position in "CAD Venture" held during 6th – 9th February 2009 at NIT Rourkela in National level.
- Stood 1ST position in "MATH-O-MODEL" held during 9th – 11th October 2009 at NIT Rourkela in National level.

7. Courses taught

UG Level

ID2202 : Materials and Processes for Design {Theory}
ID221 : Mechanisms and Machines {Theory}
ID242 : Industrial Mechatronics {Theory}
ID3301 : Manufacturing Process {Theory}
ID342 : Industrial Robotics {Theory}
ID344 : Instrumentation and Control {Theory}
ID350 : Robotics and Automation {Theory}
ID412 : Design Management {Theory}
ID4306 : Design for Manufacturing and Assembly {Theory}
ID431 : Computer-Aided Manufacturing {Theory}
ID272 : Design Workshop - II {Practical}
ID367 : Product Development Laboratory – I {Practical}
ID3701 : Design Workshop - III {Practical}
ID3702 : Simulation Laboratory- I {Practical}
ID374 : Creative Automation Laboratory {Practical}

PG Level

ID6103 : Form Studies {Theory}
ID6336 : Product Design for Manufacturing and Assembly {Theory}
ID655 : CNC Systems and Programming {Theory}
ID658 : Mechatronics and MEMS {Theory}
ID661 : Analysis and Design of Mechanical Systems {Theory}
ID471 : Analysis and Simulation Laboratory – I {Practical}
ID475 : Software Laboratory {Practical}
ID775 : CAM Laboratory {Practical}

8. **Ph.D. Students** [7] = 4 Produced + 1 Submitted + 3 ongoing
    - An Optimized Trajectory Planning for Industrial Robots Using Mathematical & Heuristic Methods, Pradip Kumar Sahu, Graduated (2018)
    - Cost Effective Optimal Robotic Assembly Sequence Generation Through Artificial Intelligence Techniques & Cad Automation, Gunji Bala Murali, Graduated (2019)
    - Investigation On Robotic Grasping and Manipulation: An Analytical And Experimental Approach
    - Golak Bihari Mahanta, Graduated (2021)
    - Laser Sensor Assisted Industrial Arc Welding Robot System for Producing Quality Welded Joints, Amruta Rout, Graduated (2021)
    - A Study On Development Of Human Robot Interaction(HRI), Nibedita Mishra, Thesis Submitted

9. Short term courses/workshops organized

- Boot-camp on Applied Artificial Intelligence for Motion Control of Unmanned Aerial Systems,2-6 Sep 2023

- Application and Utilization of Automation in Steel and Industrial Sectors, 21 - 25 Oct 2019
- Manufacturing Process Parameters Control and Optimization in regard to Steel Industry, 23 -27 Jul 2019.
- Controlling Strategies using Mechatronics Equipment in Steel Industry, 25 Feb -01 Mar 2019
- Smart Manufacturing and Materials Selection towards Steel Industry needs, 08-12 Oct 2018
- Short term course on Inventory and Supply Chain Management, 05 -09 Mar 2018
- A Short Term Course on Optimization Techniques in Industrial Robotics, 21-23 Dec 2017
- Application of Artificial Intelligence Techniques, Robotics and Mechatronics in Various Systems of Industrial Environments, 20 - 24 Nov 2017
- Industrial Robotics and Flexible Automation (IRFA-2013), 27 May -07 Jun 2013.

10. National / International conferences

- 5th Innovative Product Design and Intelligent Manufacturing Systems (IPDIMS2021), 06-07 Dec 2023
- 4th Innovative Product Design and Intelligent Manufacturing systems (IPDIMS 2020), 25 -26 Nov2022
- 3rd Innovative Product Design and Intelligent Manufacturing Systems (IPDIMS2021), 30 -31 Dec 2021
- 2nd Innovative Product Design and Intelligent Manufacturing systems (IPDIMS2020), 12 -13 Feb 2021
- 1st Innovative Product Design and Intelligent Manufacturing System (IPDIMS2019), 17 -18 May 2019

11. Books

1. Deepak, B. B. V. L., Parhi, D. R. K., & Jena, P. C. (Eds.). (2020). *Innovative Product Design and Intelligent Manufacturing Systems*. Springer Nature. 10.1007/978-981-15-2696-1
2. Deepak, B. B. V. L., Parhi, D. R. K., & Biswal, B. B. (Eds.). (2021). *Advanced Manufacturing Systems and Innovative Product Design,* Springer Nature. 10.1007/978-981-15-9853-1
3. Deepak, B. B. V. L., Parhi, D. R. K., Biswal, B. B. & Jena, P. C. (Eds.). (2022). *Applications of Computational Methods in Manufacturing and Product Design,* Springer Nature. https://link.springer.com/book/9789811902956

12. Patents

1. An Intelligent Pesticide Spraying Device for Precision Agriculture, Published, Application No/ 201931051523

13. Publications list

SCI Journals

1. Rout, A., Deepak, B. B. V. L., Biswal, B. B., & Mahanta, G. (2021). Weld seam detection, finding and setting of process parameters for varying weld gap by the utilization of laser and vision sensor in robotic arc welding. *IEEE Transactions on Industrial Electronics*. 10.1109/TIE.2021.3050368
2. Gunji, B. M., Pabba, S. K., Rajaram, I. R. S., Sorakayala, P. S., Dubey, A., Deepak, B. B. V. L., Biswal B B. & Bahubalendruni, M. R. (2021). Optimal disassembly sequence generation and disposal of parts using stability graph cut-set method for End of Life product. *Sādhanā*, *46*(1), 1-15.

3. Rout, A., BBVL, D., & Biswal, B. B. (2020). Optimization of process variables of laser sensor assisted robotic GMAW process for mild steel material. *Materials and Manufacturing Processes*, *35*(15), 1690-1700.
4. Mahanta, G.B., BBVL, Deepak., Biswal, B.B. and Rout, A. (2020), "Optimal design of a parallel robotic gripper using enhanced multi-objective ant lion optimizer with a sensitivity analysis approach", *Assembly Automation*, Vol. 40 No. 5, pp. 703-721. https://doi.org/10.1108/AA-08-2019-0145
5. Rout, A., Bbvl, D., Biswal, B.B. and Mahanta, G.B. (2020), "A fuzzy-regression-PSO based hybrid method for selecting welding conditions in robotic gas metal arc welding", *Assembly Automation*, Vol. 40 No. 4, pp. 601-612. https://doi.org/10.1108/AA-12-2019-0223
6. Gunji, B. M., Deepak, B. B. V. L., & Biswal, B. B. (2020). Effect of Considering Secondary Parts as Primary Parts for Robotic Assembly Using Stability Graph. *Arabian Journal for Science and Engineering*, *45*(2), 743-764.
7. Khayum, N., Rout, A., Deepak, B. B. V. L., Anbarasu, S., & Murugan, S. (2019). Application of fuzzy regression analysis in predicting the performance of the anaerobic reactor co-digesting spent tea waste with cow manure. *Waste and Biomass Valorization*, 11:5665–5678
8. Rout, A., Deepak, B. B. V. L., Biswal, B. B., & Mahanta, G. B. (2019). Optimal trajectory planning of industrial robot for improving positional accuracy. *Industrial Robot: the international journal of robotics research and application*. [DOI10.1108/IR-07-2019-0148]
9. Rout, A., Bbvl, D., & Biswal, B. B. (2019). Optimal trajectory generation of an industrial welding robot with kinematic and dynamic constraints. *Industrial Robot: the international journal of robotics research and application*. 47/1 (2020) 68–75
10. G. Bala Murali, B.B.V.L. Deepak, M.V.A. Raju, B.B. Biswal. "Optimal Robotic Assembly Sequence Planning Using Stability Graph through Stable Assembly Subset Identification". *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science.* Accepted for Publication,
11. Rout, A., Deepak, B., & Biswal, B. (2019). Advances in weld seam tracking techniques for robotic welding: A review. *Robotics and Computer-Integrated Manufacturing, 56*, 12-37. doi:10.1016/j.rcim.2018.08.003
12. Gunji, A. B., B. B. B. V. L. Deepak, C. M. V. A. Raju Bahubalendruni, & Biswal, D. B. (2018). An Optimal Robotic Assembly Sequence Planning by Assembly Subsets Detection Method Using Teaching Learning-Based Optimization Algorithm. *IEEE Transactions on Automation Science and Engineering, 15*(3), 1369-1385. doi:10.1109/tase.2018.2791665
13. Deepak, B., Murali, G. B., Bahubalendruni, M. R., & Biswal, B. (2018). Assembly sequence planning using soft computing methods: A review. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering,* 095440891876445. doi:10.1177/0954408918764459
14. Bendu, H., Deepak, B., & Murugan, S. (2017). Multi-objective optimization of ethanol fuelled HCCI engine performance using hybrid GRNN–PSO. *Applied Energy, 187*, 601-611. doi:10.1016/j.apenergy.2016.11.072
15. Rao, B. B., Raju, V. R., & Deepak, B. B. (2017). Estimation and optimization of heat transfer and overall pressure drop for a shell and tube heat exchanger. *Journal of Mechanical Science and Technology, 31*(1), 375-383. doi:10.1007/s12206-016-1239-6
16. Rao, J. B., Raju, V. R., & Deepak, B. (2016). A smart prediction tool for estimating heat transfer and overall pressure drop from shell-and-tube heat exchanger. *Proceedings of the Institution of Mechanical Engineers, Part E: Journal of Process Mechanical Engineering, 231*(5), 1053-1062. doi:10.1177/0954408916656388

17. Bendu, H., Deepak, B., & Murugan, S. (2016). Application of GRNN for the prediction of performance and exhaust emissions in HCCI engine using ethanol. *Energy Conversion and Management, 122*, 165- 173. doi:10.1016/j.enconman.2016.05.061
18. Bahubalendruni, M. R., Deepak, B., & Biswal, B. B. (2016). An advanced immune based strategy to obtain an optimal feasible assembly sequence. *Assembly Automation, 36*(2), 127-137. doi:10.1108/aa-10-2015-086
19. Deepak, B., & Parhi, D. R. (2016). Control of an automated mobile manipulator using artificial immune system. *Journal of Experimental & Theoretical Artificial Intelligence, 28*(1-2), 417-439. doi:10.1080/0952813x.2015.1132261
20. Deepak, B. B., Parhi, D. R., & Raju, B. M. (2014). Advance Particle Swarm Optimization-Based Navigational Controller For Mobile Robot. *Arabian Journal for Science and Engineering, 39*(8), 6477- 6487. doi:10.1007/s13369-014-1154-z
21. Deepak, B. B., & Parhi, D. (2013). Intelligent adaptive immune-based motion planner of a mobile robot in cluttered environment. *Intelligent Service Robotics, 6*(3), 155-162. doi:10.1007/s11370-013-0131-9

SCOPUS Indexed Journals:

22. Murali, G. B., Deepak, B. B. V. L., & Biswal, B. B. (2020). Optimal robotic assembly sequence planning using crab shell search algorithm. *International Journal of Mechatronics and Automation*, *7*(3), 147-155.
23. Rout, A., Mahanta, G. B., Bbvl, D., & Biswal, B. B. (2020). Kinematic and Dynamic Optimal Trajectory Planning of Industrial Robot Using Improved Multi-objective Ant Lion Optimizer. *Journal of The Institution of Engineers (India): Series C*, *101*(3), 559-569.
24. Gunji, B., B.b.v.l., D., M.b.l., S., & Mogili, U. R. (2019). Optimal path planning of mobile robot using the hybrid cuckoo–bat algorithm in assorted environment. *International Journal of IntelligentUnmanned Systems, 7*(1), 35-52. doi:10.1108/ijius-07-2018-0021
25. Mahanta, G. B., Rout, A., Muralia, G. B., Deepak, B., & Biswal, B. (2018). Application of Hybrid Nelder-Mead Bat Algorithm to Improve the Grasp Quality during the Automated Robotic Grasping. *Procedia Computer Science, 133*, 612-619. doi:10.1016/j.procs.2018.07.093
26. Murali, G. B., Deepak, B., Biswal, B., Mohanta, G. B., & Rout, A. (2018). Robotic Optimal Assembly Sequence Using Improved Cuckoo Search Algorithm. *Procedia Computer Science, 133*, 323-330. doi:10.1016/j.procs.2018.07.040
27. Rout, A., Dileep, M., Mohanta, G. B., Deepak, B., & Biswal, B. (2018). Optimal time-jerk trajectory planning of 6 axis welding robot using TLBO method. *Procedia Computer Science, 133*, 537-544. doi:10.1016/j.procs.2018.07.067
28. Saraswathi, M., Murali, G. B., & Deepak, B. (2018). Optimal Path Planning of Mobile Robot Using Hybrid Cuckoo Search-Bat Algorithm. *Procedia Computer Science, 133*, 510-517. doi:10.1016/j.procs.2018.07.064
29. Rout, A., Bbvl, D., Biswal, B. B., Mahanta, G. B., & Gunji, B. M. (2018). An Optimal Image Processing Method for Simultaneous Detection of Weld Seam Position and Weld Gap in Robotic Arc Welding. *International Journal of Manufacturing, Materials, and Mechanical Engineering, 8*(1), 37-53.doi:10.4018/ijmmme.2018010103
30. Murali, G. B., BBVL, D., & BB, B. (2017). A Novel Design for Assembly Approach for Modified Topology of Industrial Products. *International Journal of Performability Engineering*. doi:10.23940/ijpe.17.07.p2.10131019
31. Deepak, B., & Bahubalendruni, M. R. (2017). Development of a path follower in real-time environment. *World Journal of Engineering, 14*(4), 297-306. doi:10.1108/wje-07-2016-0029
32. Deepak, B., & Bahubalendruni, M. R. (2017). Numerical analysis for force distribution along the

swing jaw plate of a single toggle jaw crusher. *World Journal of Engineering, 14*(3), 255-260. doi:10.1108/wje-07-2016-0025
33. Deepak, B., Bahubalendruni, R. M., Rao, C. A., & Nalini, J. (2017). Computer aided weld seam tracking approach. *Journal of Engineering, Design and Technology, 15*(1), 31-43. doi:10.1108/jedt-10-2015- 0069
34. Murali, G. B., Deepak, B., Bahubalendruni, M. R., & Biswal, B. (2017). Optimal Assembly Sequence Planning Using Hybridized Immune-Simulated Annealing Technique. *Materials Today: Proceedings, 4*(8), 8313-8322. doi:10.1016/j.matpr.2017.07.174
35. Gunji, B. M., Deepak, B. B., Bahubalendruni, M. V., & Biswal, B. B. (2017). Hybridized genetic-immune based strategy to obtain optimal feasible assembly sequences. *International Journal of Industrial Engineering Computations,* 333-346. doi:10.5267/j.ijiec.2016.12.004
36. B.b.v.l., D., Nayak, S., & Patra, S. K. (2016). Development of obstacle- avoiding robots using RF technology. *International Journal of Intelligent Unmanned Systems, 4*(4), 214-225. doi:10.1108/ijius- 08-2016-0007
37. Deepak, B., Bahubalendruni, M. R., & Biswal, B. (2016). Development of in-pipe robots for inspection and cleaning tasks. *International Journal of Intelligent Unmanned Systems, 4*(3), 182-210. doi:10.1108/ijius-07-2016-0004
38. L, D. B., & Singh, P. (2016). A survey on design and development of an unmanned aerial vehicle (quadcopter). *International Journal of Intelligent Unmanned Systems, 4*(2), 70-106. doi:10.1108/ijius-10-2015-0012
39. Pradhan, A., & Deepak, B. (2016). Design of Intangible Interface for Mouseless Computer Handling using Hand Gestures. *Procedia Computer Science, 79*, 287-292. doi:10.1016/j.procs.2016.03.037
40. Biswal, B., Deepak, B., & Rao, Y. (2013). Optimization of robotic assembly sequences using immune based technique. *Journal of Manufacturing Technology Management, 24*(3), 384-396. doi:10.1108/17410381311318882
41. Deepak, B., & Parhi, D. (2012). PSO based path planner of an autonomous mobile robot. *Open Computer Science,2*(2). doi:10.2478/s13537-012-0009-5

Book Chapters

42. Murali, G. B., Deepak, B. B. V. L., Biswal, B. B., & Kumar, Y. K. (2020). Robotic Assembly Sequence Generation Using Improved Fruit Fly Algorithm. In *Advances in Materials and Manufacturing Engineering* (pp. 239-247). Springer, Singapore.
43. Mogili, U. R., & Deepak, B. B. V. L. (2020). Study of Takeoff Constraints for Lifting an Agriculture Pesticide Sprinkling Multi-rotor System. In *Advances in Materials and Manufacturing Engineering* (pp. 203-210). Springer, Singapore.
44. Rout, A., Mahanta, G. B., Gunji, B., Deepak, B. B. V. L., & Biswal, B. B. (2020). Kinematic and Dynamic Optimal Trajectory Planning of Industrial Robot Using Multi-objective Ant Lion Optimizer. In *Advances in Mechanical Engineering* (pp. 1475-1486). Springer, Singapore.
45. Rout, A., Mahanta, G. B., Deepak, B. B. V. L., & Biswal, B. B. (2020). Application of PCA-TOPSIS Method for Selecting Optimal Welding Conditions in GMAW to Improve the Weld Quality. In *Innovative Product Design and Intelligent Manufacturing Systems* (pp. 579-587). Springer, Singapore.
46. Mogili, U. R., & Deepak, B. B. V. L. (2020). An intelligent drone for agriculture applications with the aid of the mavlink protocol. In *Innovative Product Design and Intelligent Manufacturing Systems* (pp. 195-205). Springer, Singapore.

47. Singh, D., Mahanta, G. B., & Deepak, B. B. V. L. (2020). A Systematic Approach to Identify the Critical Parameters of Two-Wheeler E-Vehicles. In *Innovative Product Design and Intelligent Manufacturing Systems* (pp. 229-240). Springer, Singapore.
48. Mahanta, G. B., Rout, A., Deepak, B. B. V. L., & Biswal, B. B. (2020). Conceptual Design and Analysis of Three Jaw Robotic Gripper with Flexural Joints. In *Innovative Product Design and Intelligent Manufacturing Systems* (pp. 1035-1042). Springer, Singapore.
49. Mahanta, G. B., Rout, A., Gunji, B., Deepak, B. B. V. L., & Biswal, B. B. (2020). Multi-objective design optimization of a bioinspired underactuated robotic gripper using multi-objective Grey wolf optimizer. In *Advances in Mechanical Engineering* (pp. 1497-1509). Springer, Singapore.
50. Deepak, B.B.V.L. and Parhi, D.R.; New strategy for mobile robot navigation using fuzzy logic; Advancesin Intelligent Systems and Computing; 2019;10.1007/978-981-13-3329-3_1
51. Mishra, A. and Gunji, B. and Deepak, B.B.V.L.;A new safety design of the ceiling fan to avoid suicidal cases; Smart Innovation, Systems and Technologies; 2019;10.1007/978-981-13-5974-3_62
52. Bala Murali, G. and Deepak, B.B.V.L. and Biswal, B.B. and Khamari, B.K.;Integrated Design for Assembly Approach Using Ant Colony Optimization Algorithm for Optimal Assembly Sequence Planning; Advances in Intelligent Systems and Computing; 2019;10.1007/978-981-10-8055-5_23
53. Murali, G.B. and Deepak, B.B.V.L. and Mahanta, G.B. and Rout, A. and Biswal, B.B.;Design for assembly approach for energy-efficient optimal assembly sequence planning using improved firefly algorithm;Smart Innovation, Systems and Technologies; 2019;10.1007/978-981-13-5974-3_58
54. Gunji, B. and Deepak, B.B.V.L. and Rout, A. and Mohanta, G.B. and Biswal, B.B.;Hybridized cuckoo–bat algorithm for optimal assembly sequence planning;Advances in Intelligent Systems and Computing; 2019;10.1007/978-981-13-1592-3_49
55. Mahanta, G.B. and Deepak, B.B.V.L. and Dileep, M. and Biswal, B.B. and Pattanayak, S.K.;Prediction of inverse kinematics for a 6-dof industrial robot arm using soft computing techniques; Advances in Intelligent Systems and Computing; 2019;10.1007/978-981-13-1595-4_42
56. Mahanta, G.B. and Deepak, B.B.V.L. and Biswal, B.B. and Rout, A. and Bala Murali, G.;Design optimization of robotic gripper links using accelerated particle swarm optimization technique; Advances in Intelligent Systems and Computing; 2018;10.1007/978-981-10-8228-3_31
57. Bala Murali, G. and Deepak, B.B.V.L. and Raju Bahubalendruni, M.V.A. and Biswal, B.B.;Optimal assembly sequence planning towards design for assembly using simulated annealing technique;SmartInnovation, Systems and Technologies; 2017;10.1007/978-981-10-3518-0_35
58. Deepak, B.B.V.L. and Raviteja, G. and Behera, U. and Prakash, R.;Development of a general search based path follower in real time environment;Lecture Notes in Electrical Engineering; 2017;10.1007/978-81-322-3592-7_32
59. Deepak, B.B.V.L. and Rao, C.A. and Raju, B.M.V.A. and Singh, P.K.;Kinematic modeling and simulation of manipulator for executing welding operations with arbitrary weld joint profiles;Lecture Notes in Electrical Engineering; 2016;10.1007/978-81-322-3589-7_32
60. Pavan Kumar, P. and Deepak, B.B.V.L.;Design and ergonomic evaluation of multipurpose student's bed;Smart Innovation, Systems and Technologies; 2015;10.1007/978-81-322-2232-3_37
61. Parhi, D.R. and Deepak, B.B.V.L. and Mohana, J. and Ruppa, R. and Nayak, M.;Immunised navigational controller for mobile robot navigation;Studies in Computational Intelligence; 2012;10.1007/978-3- 642-25507-6_15G. Bala Murali, B.B.V.L. Deepak, M.V.A. Raju

Bahubalendruni and B.B. Biswal, Optimal Assembly Sequence Planning Towards Design for Assembly Using Simulated Annealing Technique, Springer Nature Singapore Pte Ltd. 2017, A. Chakrabarti and D. Chakrabarti (eds.), Research into Design for Communities, Volume 1, Smart Innovation, Systems and Technologies 65, DOI10.1007/978-981-10-3518-0_35

62. Deepak, B. B. V. L., Raviteja, G., Behera, U., & Prakash, R. (2017). *Development of a General Search Based Path Follower in Real Time Environment.* Lecture Notes in Electrical Engineering, In Proceedings of the International Conference on Signal, Networks, Computing, and Systems (pp. 315-322). SpringerIndia.
63. B.B.V.L. Deepak, C.A. Rao, B.M.V.A. Raju and P.K. Singh (2017). *Kinematic Modeling and Simulation of Manipulator for Executing Welding Operations with Arbitrary Weld Joint Profiles*, Lecture Notes in Electrical Engineering, In Proceedings of the International Conference on Signal, Networks, Computing, and Systems (pp. 291-300). Springer India.
64. B.B.V.L. Deepak, Dayal R. Parhi and Ravi Praksh (2017). *Kinematic Control of a Mobile Manipulator, Lecture Notes in Electrical Engineering*, In Proceedings of the International Conference on Signal, Networks, Computing, and Systems (pp. 339-346).
65. B. B. V. L. Deepak, C. A. Rao and B. M. V. A. Raju (2016), *Weld Seam Tracking and Simulation of 3- Axis Robotic Arm for Performing Welding Operation in CAD Environment*, CAD/CAM, Robotics and Factories of the Future, Lecture Notes in Mechanical Engineering, Editors: Dipak Kumar Mandal and Chanan Singh Syan, pp 405-415, Springer India.
66. M. V. A. Raju Bahubalendruni, Bibhuti Bhusan Biswal, Manish Kumar, B. B. V. L. Deepak (2016), *A Note on Mechanical Feasibility Predicate for Robotic Assembly Sequence Generation*, CAD/CAM, Robotics and Factories of the Future, Lecture Notes in Mechanical Engineering, Editors: Dipak Kumar Mandal and Chanan Singh Syan, pp 397-404, Springer India.
67. P P Kumar, and B B V L Deepak; *"Design and Ergonomic Evaluation of Multipurpose Student's Bed"*, In ICoRD'15–Research into Design across Boundaries Volume 1 (pp. 421-430). Springer India, 2015.
68. D R Parhi, B B V L Deepak, J Mohana, R Ruppa, and M Nayak; "*Immunised Navigational Controller for Mobile Robot Navigation*", In Soft Computing Techniques in Vision Science (pp. 171-182). Springer Berlin Heidelberg, 2012.