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## Research outputs

### **PointVoteNet: Accurate Object Detection and 6 DoF Pose Estimation in Point Clouds**

Hagelskjær, F. & Buch, A. G., Oct 2020, *2020 IEEE International Conference on Image Processing (ICIP)*. IEEE, p. 2641-2645 (International Conference on Image Processing. Proceedings).

### **Towards robot cell matrices for agile production—SDU Robotics' assembly cell at the WRC 2018**

Schlette, C., Buch, A. G., Hagelskjær, F., Iturrate, I., Kraft, D., Kramberger, A., Lindvig, A. P., Mathiesen, S., Petersen, H. G., Rasmussen, M. H., Savarimuthu, T. R., Sloth, C., Sørensen, L. C. & Thulesen, T. N., 17. Apr 2020, In: *Advanced Robotics*. 34, 7-8, p. 422-438

### **Fast robust peg-in-hole insertion with continuous visual servoing**

Haugaard, R. L., Langaa, J., Sloth, C. & Buch, A. G., 2020, (Accepted/In press) *Conference on Robot Learning (CoRL)*. (Proceedings of Machine Learning Research).

### **Bayesian Optimization of 3D Feature Parameters for 6D Pose Estimation**

Hagelskjær, F., Krüger, N. & Buch, A. G., 2019, *Proceedings of the 14th International Joint Conference on Computer Vision, Imaging and Computer Graphics Theory and Applications*. Kerren, A., Hurter, C. & Braz, J. (eds.). SCITEPRESS Digital Library, Vol. 5: VISAPP. p. 135-142

### **Using spatial constraints for fast set-up of precise pose estimation in an industrial setting**

Hagelskjær, F., Savarimuthu, T. R., Krüger, N. & Buch, A. G., 2019, *2019 IEEE 15th International Conference on Automation Science and Engineering, CASE 2019*. IEEE, p. 1308-1314 (IEEE International Conference on Automation Science and Engineering).

### **Local point pair feature histogram for accurate 3D matching**

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### **BOP: Benchmark for 6D Object Pose Estimation**

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### **Teaching a Robot the Semantics of Assembly Tasks**

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### **A performance evaluation of point pair features**

Kiforenko, L., Drost, B., Tombari, F., Krüger, N. & Buch, A. G., 2018, In: *Computer Vision and Image Understanding*. 166, p. 66-80

### **Compensating Pose Uncertainties Through Appropriate Gripper Finger Cutouts**

Wolniakowski, A., Gams, A., Kiforenko, L., Kramberger, A., Chrysostomou, D-C., Madsen, O., Miatliuk, K., Petersen, H. G., Hagelskjær, F., Buch, A. G., Ude, A. & Krüger, N., 2018, In: *Acta Mechanica et Automatica*. 12, 1, p. 78-83

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### **A Novel 2.5D Feature Descriptor Compensating for Depth Rotation**

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### **Multi-View Object Instance Recognition in an Industrial Context**

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### **Prediction of ICP Pose Uncertainties Using Monte Carlo Simulation with Synthetic Depth Images**

Iversen, T. M., Buch, A. G. & Kraft, D., 2017, *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*. IEEE, p. 4640-4647

### **Robustifying Correspondence Based 6D Object Pose Estimation**

Hietanen, A., Halme, J., Buch, A. G., Latokartano, J. & Kämäräinen, J-K., 2017, *Proceedings of the 2017 IEEE International Conference on Robotics and Automation*. IEEE Press, p. 739-745 (I E E E International Conference on Robotics and Automation).

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### **Using Online Modelled Spatial Constraints for Pose Estimation in an Industrial Setting**

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Wolniakowski, A., Gams, A., Kiforenko, L., Kramberger, A., Chrysostomou, D-C., Madsen, O., Miatliuk, K., Petersen, H. G., Hagelskjær, F., Buch, A. G., Ude, A. & Krüger, N., 3. Jul 2016.

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### **A comparison of feature detectors and descriptors for object class matching**

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### **Using surfaces and surface relations in an early cognitive vision system**

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### **In Search of 3D Poses: Advancing Feature Description, Matching and Estimation for Robotic Applications**

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### **Object Detection Using a Combination of Multiple 3D Feature Descriptors**

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### **Shape Dependency of ICP Pose Uncertainties in the Context of Pose Estimation Systems**

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### **Teach it Yourself - Fast Modeling of Industrial Objects for 6D Pose Estimation**

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Savarimuthu, T. R., Buch, A. G., Yang, Y., Mustafa, W., Haller, S., Papon, J., Martínez, D. & Aksoy, E. E., 13. Jul 2014. 2 p.

### **A new benchmark for pose estimation with ground truth from virtual reality**

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### **Peg-In-Hole Assembly under Uncertain Pose Estimation**

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### **Pose Estimation using a Hierarchical 3D Representation of Contours and Surfaces**

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### **Supervised Object Class Colour Normalisation**

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