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Uddannelse

April 2011 Ph.D. in Robotics at The Maersk Mc-Kinney Moller Institute
University of Southern Denmark, Odense, DK
Roblood – Automatic blood sampling

February 2010 Visiting Scholar at LCSR/VISR lab
Johns Hopkins University, Baltimore, MD, USA
Multimodal image fusion for surgical robotics

June 2007 M.Sc.Eng. Computer System Engineering
University of Southern Denmark, Odense, DK
Specialized in medical imaging and image analysis
Thesis: Automatic detection and parametrizing of blood veins by computer vision.

Ansættelser

2020 - currently Professor at The Maersk Mc-Kinney Moller Institute
University of Southern Denmark Odense, DK
•Medical Robotics

2014 - 2019 Associate Professor at The Maersk Mc-Kinney Moller Institute
University of Southern Denmark Odense, DK
•Medical Robotics

2011-2014 Assistant Professor at The Maersk Mc-Kinney Moller Institute
University of Southern Denmark Odense, DK
•Medical Robotics, Realtime vision

2010Medical Vision Engineer
Intuitive Surgical Inc. Sunnyvale, CA, USA
•Multimodal image fusion and navigation for surgical robotics

Projects

2021 -2025 ACROBATIC: National project, Workpackage leader
2020 – 2021 AI-pathology: National project, Workpackage leader
2019 – 2019 Collaborative Robots: National project, Project leader
2018 – 2021 AIID: National project, Project leader
2017 – 2020 ROPCA Ultrasound: National project, Project leader
2015 – 2018 ReconCell: EU project, Workpackage leader, Co-PI
2014 - 2018 ROSOR: National project, Workpackage leader
2011 - 2014 IntellAct: EU project, Technical coordinator

Priser

Best Student Paper Award

Årsvold, A. T. (Modtager), Zeltner, A. S. (Modtager), Cheng, Z. (Modtager), Schwaner, K. L. (Modtager), Jensen, P. T. (Modtager) & Savarimuthu, T. R. (Modtager), 19. nov. 2021

euRobotics Entrepreneurship Award 2023

Savarimuthu, T. R. (Modtager), 15. mar. 2023

euRobotics Technology Transfer award
Savarimuthu, T. R. (Modtager), 15. mar. 2023

Information's Ph.D.-Cup 2011
Savarimuthu, T. R. (Modtager), 14. maj 2012

Innovationspris - SDU
Savarimuthu, T. R. (Modtager), 5. okt. 2020

KUKA Innovation Award 2022
Savarimuthu, T. R. (Modtager), 16. nov. 2022

Teknisk Fakultets Innovationspris
Savarimuthu, T. R. (Modtager), 1. okt. 2020

Publikationer

A robotic sampling apparatus and method for obtaining an intra-cavity biological surface sample from a patient
Savarimuthu, T. (Opfinder), Petersen, H. (Opfinder), Iversen, N. (Opfinder), Kramberger, A. (Opfinder), San Juan, I. (Opfinder), Wilm, J. (Opfinder), Schmidt, M. (Opfinder), Denisa, M. (Opfinder), Lindvig, A. (Opfinder), Buch, A. (Opfinder), Winther, T. (Opfinder) & Sloth, C. (Opfinder), 18. nov. 2021, IPC nr. A61B10/00, A61B10/02, G01N35/00, G01N35/04;, G16H10/40, Patentnr. WO2021228810 (A1), 18. nov. 2021, Prioritetsdato 14. maj 2020, Prioritetsnr. EP20200174693

A robot sampling apparatus and a method for obtaining intra-cavvity biological surface sample from patient
Savarimuthu, T. R. (Opfinder), Petersen, H. G. (Opfinder), Iversen, N. (Opfinder), Kramberger, A. (Opfinder), Iturrate, I. (Opfinder), Wilm, J. (Opfinder), Schmidt, M. (Opfinder), Deniša, M. (Opfinder), Lindvig, A. P. (Opfinder), Buch, A. G. (Opfinder), Winther, T. S. (Opfinder) & Sloth, C. (Opfinder), 18. nov. 2021, IPC nr. A61B10/00, A61B10/02, G01N35/00, G16H10/40, G01N35/04, Patentnr. WO2021228810 (A1), 18. nov. 2021, Prioritetsdato 14. maj 2020, Prioritetsnr. EP20200174693

A robot system arranged for autonomously obtaining biological surface samples from a patient
Savarimuthu, T. R. (Opfinder), Petersen, H. G. (Opfinder), Iversen, N. (Opfinder), Kramberger, A. (Opfinder), Iturrate, I. (Opfinder), Wilm, J. (Opfinder), Schmidt, M. K. (Opfinder), Deniša, M. (Opfinder), Lindvig, A. P. (Opfinder), Buch, A. G. (Opfinder), Winther, T. S. (Opfinder) & Sloth, C. (Opfinder), 17. nov. 2021, IPC nr. A61B10/00, A61B10/02, A61B17/00, A61B17/24, A61B34/00, A61B34/20, A61B34/32, A61B90/00, Patentnr. EP3909515 (A1), 17. nov. 2021, Prioritetsdato 14. maj 2020, Prioritetsnr. EP20200174694

A sample obtaining device
Savarimuthu, T. R. (Opfinder), Petersen, H. G. (Opfinder), Iversen, N. (Opfinder), Kramberger, A. (Opfinder), Iturrate, I. (Opfinder), Wilm, J. (Opfinder), Schmidt, M. K. (Opfinder), Deniša, M. (Opfinder), Lindvig, A. P. (Opfinder), Buch, A. G. (Opfinder), Winther, T. S. (Opfinder) & Sloth, C. (Opfinder), 17. nov. 2021, IPC nr. A61B10/00, A61B10/02, A61B34/30, A61B90/00, Patentnr. EP3909538 (A1), 17. nov. 2021, Prioritetsdato 14. maj 2020, Prioritetsnr. EP20200174700

Teaching a Robot the Semantics of Assembly Tasks
Savarimuthu, T. R., Buch, A. G., Schlette, C., Wantia, N., Roßmann, J., Martinez, D., Alenya, G., Torras, C., Ude, A., Nemec, B., Kramberger, A., Worgotter, F., Aksoy, E. E., Papon, J., Haller, S., Piater, J. & Kruger, N., 1. maj 2018, I: IEEE Transactions on Systems, Man, and Cybernetics: Systems. 48, 5, s. 670-692

Device for dynamic switching of robot control points
Savarimuthu, T. R. (Opfinder), Sølvason, D. (Opfinder), Kuklinski, K. (Opfinder), Krüger, N. (Opfinder), Fischer, K. (Opfinder), aus der Wieschen, M. V. (Opfinder), Kirstein, F. (Opfinder) & Marhenke, I. (Opfinder), 25. jun. 2015, Patentnr. WO2014DK50412, 3. dec. 2014, Prioritetsdato 17. dec. 2013, Prioritetsnr. DK20130070783

An online vision system for understanding complex assembly tasks
Savarimuthu, T. R., Papon, J., Buch, A. G., Aksoy, E. E., Mustafa, W., Wörgötter, F. & Krüger, N., 2015, *Proceedings of the 10th International Conference on Computer Vision Theory and Applications*. Braz, J., Battiato, S. & Imai, F. (red.). Institute for Systems and Technologies of Information, Control and Communication, Bind 3. s. 454-461

Manipulation monitoring and robot intervention in complex manipulation sequences
Savarimuthu, T. R., Buch, A. G., Yang, Y., Mustafa, W., Haller, S., Papon, J., Martínez, D. & Aksoy, E. E., 13. jul. 2014. 2 s.

Detection of needle insertion point for phlebotomy in human forearms
Savarimuthu, T. R. & Sørensen, A. S., 2014, I: International Journal of Mechanics and Control. 15, 1, s. 61-67

Analysis of human Peg-in-Hole Executions in a Robotic Embodiment using uncertain Grasps
Savarimuthu, T. R., Liljekrans, D., Ellekilde, L.-P., Ude, A., Nemec, B. & Krüger, N., 2013, *Proceedings of the 9th Workshop on Robot Motion and Control (RoMoCo).* IEEE, s. 233-239

Visualization of Anatomical Information in Near-Infrared Imaging for Robotic Urological Surgery
Savarimuthu, T. R., Minnillo, B., Taylor, R., Nguyen, H. & Kumar, R., maj 2011, I: IEEE International Conference on Robotics and Automation. May, s. 2412-2417

Real-time medical video processing, enabled by hardware accelerated correlations
Savarimuthu, T. R., Kjaer-Nielsen, A. & Sorensen, A. S., 2011, I: Journal of Real-Time Image Processing. 6, 3, s. 187-197 11 s.

Towards automatic bloodsampling
Savarimuthu, T. R., 2011, Syddansk Universitet. Det Tekniske Fakultet. 164 s.

Tracking blood vessels in human forearms using visual servoing
Savarimuthu, T. R., Ellekilde, L.-P. & Hansen, M., 2010. 7 s.

Automatisk blodprøvetagning: Få vist patientens blodårer direkte på skærmen, når du skal stikke dem i armen!
Savarimuthu, T. R., 2008, I: Medicinsk Teknologi og Informatik. 5, 6, s. 12-13 2 s.

DETECTION OF VESSELS IN HUMAN FOREARMS USING 2D MATCHED FILTERING
Savarimuthu, T. R. & Sørensen, A. S., 2008, *Signal and Image Processing 2008.* Cristea, P. D. (red.). ACTA Press, s. 294-299 6 s.