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Researcher
AAU Energy
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Research profile

Born in Aalborg, Denmark, 1990. Earned BSc in Electronics in 2012, MSc in IT in 2014 from Aalborg University, Esbjerg, Denmark. PhD from the University of Southern Denmark, Sønderborg, Denmark, in 2020. Working within robotics and sensing technologies in terrestrial and underwater environments, using low-cost consumer and industrial components, open-source software, and simulation of such systems using digital twins. Previously worked within offshore process monitoring and control systems.

Employment

Researcher
Researcher
The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Sept 2021 → 31 Dec 4712

Research outputs

Opto-Acoustic Sensing Payload for Leader-Follower AUV System

Mai, C., Uth, E. T., Vibild, P. D., Pedersen, S. & Liniger, J., 2026, (Accepted/In press) *Proceedings of the 2026 Symposium on Autonomous Underwater Vehicle Technology (AUV)*.

Synthetic Subsea Imagery for Inspection under Natural Lighting with Marine-Growth

Mai, C., Wiele, C., Liniger, J. & Pedersen, S., 1 Dec 2024, In: *Ocean Engineering*. 313, Part 1, 20 p., 119284.

Marine-Fouling Composition Estimation using Cost-effective Sensing

Mai, C., Sørensen, F. F., Liniger, J. & Pedersen, S., 2024, *Proceedings of the OCEANS 2024 - Halifax*. IEEE (Institute of Electrical and Electronics Engineers), 10754572. (OCEANS - Proceedings).

Semantic segmentation using synthetic images of underwater marine-growth

Mai, C., Liniger, J. & Pedersen, S., 2024, In: *Frontiers in Robotics and AI*. 11, 1459570.

Design of an Autonomous ROV for Marine Growth Inspection and Cleaning

Mai, C., Benzon, M. V., Sørensen, F. F., Klemmensen, S. S., Pedersen, S. & Liniger, J., 2022, *2022 IEEE/OES Autonomous Underwater Vehicles Symposium, AUV 2022*. IEEE (Institute of Electrical and Electronics Engineers), 6 p. (IEEE/OES Autonomous Underwater Vehicles Symposium (AUV)).

Experimental investigation of non-contact 3D sensors for marine-growth cleaning operations

Mai, C., Liniger, J., Jensen, A. L., Sørensen, H. & Pedersen, S., 2022, *5th IEEE International Conference on Image Processing, Applications and Systems (IPAS 2022)*. IEEE (Institute of Electrical and Electronics Engineers)

Towards Precision and Reliability in Autonomous Agricultural Robots
Mai, C., Sept 2020, 124 p.

Trajectory tracking for autonomous turf-care vehicle using Liouvillian approach

Mai, C., Top, S. & Jouffroy, J., 30 Aug 2018, *AIM 2018 - IEEE/ASME International Conference on Advanced Intelligent Mechatronics*. IEEE Signal Processing Society, p. 1438-1443 6 p. 8452347. (IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM, Vol. 2018-July).

Covering path generation for autonomous turf-care vehicle

Mai, C., Jouffroy, J., Top, S. & Bjærre, M., 21 Aug 2017, *2017 IEEE International Conference on Advanced Intelligent Mechatronics, AIM 2017*. IEEE Signal Processing Society, p. 346-351 6 p. 8014041. (IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM).

Modeling and Control of Industrial ROV's for Semi-Autonomous Subsea Maintenance Services

Mai, C., Pedersen, S., Hansen, L., Jepsen, K. L. & Yang, Z., Jul 2017, In: *IFAC-PapersOnLine*. 50, 1, p. 13686-13691 6 p.

Subsea Infrastructure Inspection: A Review Study

Mai, C., Pedersen, S., Hansen, L., Jepsen, K. L. & Yang, Z., Dec 2016, *Proceedings of IEEE 6th International Conference on Underwater System Technology: Theory and Applications (USYS)*. IEEE Press, p. 71-76 6 p.

Intelligent Control of Diesel Generators Using Gain-Scheduling Based on Online External-Load Estimation

Mai, C., Jepsen, K. L., Yang, Z., Hansen, L. & Madsen, K. K., Nov 2014, *Proceedings of the IEEE International Power Electronics and Application Conference and Exposition (IEEE PEAC'14)*. Shanghai: IEEE Press, p. 966 - 971 6 p.

Prizes

MSCA Certificate of Excellence

Mai, C. (Recipient), 2025

Innovation Project of the Year

Liniger, J. (Recipient), Pedersen, S. (Recipient), Sørensen, F. F. (Recipient), von Benzon, M. (Recipient), Mai, C. (Recipient) & Klemmensen, S. (Recipient), 2024

Best Session Paper Award

Mai, C. (Recipient) & Sørensen, F. F. (Recipient), 2022

Esbjerg University Price

Mai, C. (Recipient), Jepsen, K. L. (Recipient) & Hansen, L. (Recipient), 2016

Awards

U-SHIELD: Underwater Safeguarding High-value Infrastructure Enforcing Lightweight Drones

Liniger, J. (PI), Vibild, P. D. (Project Participant), Pedersen, S. (Project Participant), Uth, E. T. (Project Participant), Mai, C. (Project Participant), Ozalla Sanchez, M. (Project Participant) & Christensen, M. D. (Project Coordinator)
Innovation Fund Denmark: DKK25,972,396.00
01/04/2025 → 31/03/2028

Projects

U-SHIELD: Underwater Safeguarding High-value Infrastructure Enforcing Lightweight Drones

Liniger, J. (PI), Vibild, P. D. (Project Participant), Pedersen, S. (Project Participant), Uth, E. T. (Project Participant), Mai, C. (Project Participant), Ozalla Sanchez, M. (Project Participant) & Christensen, M. D. (Project Coordinator)
Innovation Fund Denmark
01/04/2025 → 31/03/2028

NextGen Robotics: NextGen Robotics (Udvikling af undervandsrobot til havmølleparker)

Liniger, J. (PI), Pedersen, S. (CoPI), Mai, C. (Project Participant) & Christensen, M. D. (Project Coordinator)
Erhvervshus Fyn
01/09/2023 → 31/08/2025

Virtual acoustic underwater simulations

Mai, C. (PI), Liniger, J. (Project Applicant) & Christensen, M. D. (Project Coordinator)
01/01/2024 → 31/12/2024

DIN-ECO: Boosting Digital Innovation and Transformation Capacity of HEIs in an Entrepreneurial ecosystem

Pedersen, S. (PI), Bram, M. V. (Project Participant), Mai, C. (Project Participant), Sørensen, F. F. (Project Participant) & Christensen, M. D. (Project Coordinator)
EIT DIGITAL 2022 (EU)
01/07/2022 → 30/06/2024

ACOMAR: Auto Compact Marine Growth Remover

Liniger, J. (Project Applicant), Pedersen, S. (Project Applicant), von Benzon, M. (Project Participant), Sørensen, H. (Project Participant), Sørensen, F. F. (Project Participant), Jensen, A. L. (Project Participant), Yang, Z. (Project Participant), Nielsen, M. E. (Project Participant), Mai, C. (Project Participant) & Christensen, M. D. (Project Coordinator)
EUDP
01/09/2020 → 31/12/2023

Virtual underwater environments

Mai, C. (PI), Liniger, J. (Project Applicant) & Christensen, M. D. (Project Coordinator)
01/01/2023 → 31/12/2023

Underwater Robot - VideoRay ROV

Yang, Z. (Project Manager), Mai, C. (Project Participant) & Pedersen, S. (Project Participant)
22/05/2015 → 01/06/2018

Inline Inspection Robot - Inukun Versatrax 150 Crawler

Yang, Z. (Project Manager) & Mai, C. (Project Participant)
01/05/2016 → 01/11/2016

Press/Media**Afhandling medførte succes**

Mai, C., Hansen, L. & Jepsen, K. L.
09/11/2015
1 item of Media coverage