

### **Adaptive industrial robots using machine vision**

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### **AI-based surrogate model for the prediction of ship fuel consumption reflecting hydrometeorological conditions**

Zhang, Mingyang; Tsoulakos, Nikolaos; **Kujala, Pentti Jouko Sakari**; Hirdaris, Spyros Proceedings of the International Conference on Offshore Mechanics and Arctic Engineering - OMAE 2024 ; vol. 9 2024 / OMAE2024-121992, V009T13A016 ; 11 pages <https://doi.org/10.1115/OMAE2024-121992> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **AL – A prototype autonomous ship model for navigating in ice conditions**

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### **CCD IK implementatsion in unity for finding the angles of industrial robots' links**

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### **Developing of an engineering scientific innovative lab and teaching methodology for smart manufacturing in the hi-engineering school**

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### **Digital Twin : universal user interface for online management of the manufacturing system**

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#### **Evaluation of virtual reality interface interaction methods for digital twin industrial robot programming and control, a pilot study**

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#### **ISSC 2025 Committee III.1 - Compressive test of a transversely stiffened thin-plated structure with expected early nonlinear response prior to the ultimate capacity: preliminary comparison of the numerical results**

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**Jegorov, Sergei; Rassõlkin, Anton; Rjabtšikov, Viktor; Mohamed, Mahmoud Ibrahim Hassanin; Kuts, Vladimir** Proceedings of ASME 2022 International Mechanical Engineering Congress and Exposition (IMECE2022), 2B: Columbus, Ohio, USA, October 30 - November 3, 2022 / art. IMECE2022-97243, V02BT02A011, 6 p. <https://doi.org/10.1115/IMECE2022-97243>

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**Ship collision simulations using different fracture criteria and mesh size**

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**SMA-based haptic gloves usage in the smart factory concept : XR use case**

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**Treatment of bending deformations in maritime crash analyses**

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**Water hammer and column separation due to accidental simultaneous closure of control valves in a large scale two-phase flow experimental test rig**

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**Virtual simulations environment development for autonomous vehicles interaction**

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