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LEVERAGING EXTENDED CAE TECHNOLOGY TOWARD THE REALIZATION OF HUMAN-CENTERED SOCIETY5.0

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ABSTRACT

Japanese government has formulated Society 5.0[1)] as a measure to balance economic advancement with the resolution of the social issues such as declining population and aging society. This is aimed at a human-centered society with systems that highly combine cyber spaces and physical (real) spaces.
In the last WCCM XIII Mini-symposium MS1314, we have defined Extended CAE[2)] in order to include not only the design synthesis and optimization but also the IoT and AI technology.
Also, in the last 15th USNCCM Mini-symposium MS704, we discuss on the real world modeling[3)] (digital twin) on the Cyber Physical System for the realization of Society5.0. Especially concerning to the Uncertainty Quantification of the CPS process, the targets of Smart Services, that is, the human and the society, have quite wide range of uncertainty, and require more rasearch work for the modeling of human behavior and social decision making. We also define separately for Deep Learning capability on the platform, Reasoning capability on the edge and the application of Transfer Learning for the intelligence sharing on the CPS process.
Integrating Computational Science (FEM, FDM, MBD, UQ, HPC, etc.), Information Science (IoT, AI, 5G, etc.), and Behavioral Economics (Bounded Rationality, Prospect Theory, Nudge theory, etc.), which are the academic background to realize Society 5.0, the foundation of "Computational Information Science" should be discussed in this mini-symposium in order to incorporate human and society into the system models.
This mini-symposium covers those widespread modeling technologies, which will integrate Computational Science, Information Science and Behavioral Economics with the help of Extended CAE technology.

REFERENCES

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