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Machine Learning Applied to Optical Communication Systems

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Message from the Guest Editors

Dear Colleagues,

This Special Issue aims to dive into the exciting intersection of ML and optical communication systems to foster a deeper understanding of how ML can revolutionize optical communications and how optical communications can facilitate ML processing. We encourage researchers to contribute to this hot topic and present their state-of-the-art research or review articles. Potential directions include but are not limited to ML theory and design, performance evaluation, complexity analysis, hardware implementation, etc., for different types of optical communication systems (to solve the aforementioned problems) shown below:

- ML in short-reach transmission systems (IM/DD or self-coherent);
- ML in long-haul transmission systems (coherent);
- ML in optical access networks (e.g., passive optical networks);
- ML in radio-over-fiber systems;
- ML in optical wireless communications;
- ML in visible-light communication systems;
- ML in underwater optical communications;
- ML in optical vehicle-to-vehicle communication systems;
- ML in laser communications in space;
- ML in chaotic optical communications.