



ETH Zurich

Integrated Information Processing Group

Real-world implementations are vital for research on future wireless communication systems. By adopting the ARC-OTA platform, the Integrated Information Processing group at ETH Zurich is developing and evaluating novel baseband processing algorithms. Real-world over-the-air experiments with this full-stack 5G system reveal the practical benefits of machine learning (ML)-assisted physical layer processing and the efficacy of channel-state-information-based positioning techniques that utilize ML.

Real-World 5G System Blog



Research Focus: ML-Assisted MIMO Detection, Decoding, and User Positioning

Real-time optimization and validation of machine-learning-assisted 5G and 6G receivers

Performance and complexity optimization with real-world received data leveraging ARC data collection.

GNSS-free, self-supervised positioning with channel-state-information-based fingerprinting and channel charting.



