



(Reported by Technical Program Committee Secretary, Atsushi Matsumoto)

The 11th Lecture Meeting of Tokyo Section in 2022

On Tuesday, November 1st, from 15:00 to 16:00, the Tokyo Section Technical Program Committee (TPC) hosted the 2022 11th Tokyo Section Lecture Meeting with a local hybrid of the Zoom Webinar virtual meeting system (co-sponsored by IEEE Japan Council, IEEE Tokyo Section LMAG (Life Members Affinity Group), co-sponsored by the Institute of Electronics, Information and Communications Technology). The venue was the Faculty of Engineering Building 2 of the Hongo Campus of the University of Tokyo, and approximately 128 people participated, including local and online participants. Dr. K. J. Ray Liu, IEEE 2022 President and CEO of Origin Wireless AI, who was visiting Japan, was invited to give a lecture entitled "Wireless AI: A New Sixth Sense to Deciphering our World," on research on high-precision indoor positioning technology using communication technologies such as WiFi, LTE, and 5G wireless, and various applications using such unique technology. It was interesting that the fusion of wireless communications and AI would be able to become an important technology as a "new sixth sense" for people toward the realization of a smart society and life in the future. It was a valuable opportunity to meet Dr. Liu, the president of IEEE, in person during his visit to Japan, so we held the lecture meeting at the local venue with an online hybrid using Zoom Webinar. In the future, we will continue to hold the lecture meeting in the form according to the situation.



Modelling: Data Fusing by Time Reversal

- Due to breathing, the delay of path 3 exhibits a periodic pattern
 $\tau_3(t) = \tau_{3,0} + \Delta\tau_3(t)$
 and the channel state information becomes
 $H(t) = A(t) \begin{bmatrix} C \\ C + \Phi_3(t) \beta_3(t) \end{bmatrix}$
static periodic
- Construct a resonating strength matrix
 $R = HH^H = \Phi_{gg}^H \Phi^H + \sigma^2 I$
 with $[\Phi]_{ij} = \Phi_j^{-1} = (e^{-j2\pi f_j T} F_j)^{-1}$
breathing rate of reflector j
- Use spectral estimation to estimate breathing rates

[Chen/Chen/Lai/Zhang/Wang/Liu, TBE, 2017] **ORIGIN**



(Reported by Technical Program Committee Secretary, Atsushi Matsumoto)

The 12th Lecture Meeting of Tokyo Section in 2022

On Wednesday, November 2nd, from 15:00 to 16:30, 2022, the Tokyo Section Technical Program Committee (TPC) hosted the 12th Tokyo Section Lecture meeting with approximately 44 participants using the Zoom Webinar virtual meeting system (co-sponsored by the IEEE Tokyo Section LMAG (Life Members Affinity Group), co-sponsored by the Institute of Electronics, Information and Communications Technology). Prof. Seishi Takamura, Faculty of Computer and Information Sciences, Hosei University, and Visiting Senior Distinguished Engineer, NTT Computer & Data Science Laboratories, NTT Corporation, was invited to give a lecture entitled "Involved in research and development of video coding". In particular, he gave lectures on his research on optimization of video coding and data volume compression, which he had been conducting when he was a member of NTT, as well as on the development of related technologies into international standardization. He also gave interesting talks, such as an episode concerning the

IEEE Fellow award.

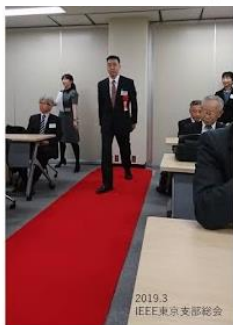
This lecture was held only as a virtual online conference using Zoom Webinar. Around the time when the 12th lecture was held, the COVID-19 situation was relatively on the decline, but taking into consideration the possibility that it will be on the rise again as in the past, we will continue to hold meetings in a format according to the situation.

フェロー記念講演

映像符号化の研究開発に携わって

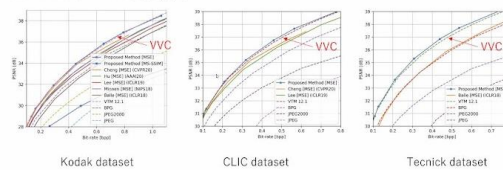
2022年11月2日
高村誠之(法政大学/NTT)

ありがとう
ございました



End2End符号化 (VVC総取り換え)

- 静止画でVVC Intraを超える例が出現
- DNNVCチームも探索中



Kodak dataset CLIC dataset Tecnick dataset

Y. Xie et al. "Enhanced Invertible Encoding for Learned Image Compression", ACM Multimedia 2021. 25



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IEEE Tokyo Section welcomes any comments, requests or inquiries from our members. Please send them to tokyosec@ieee-jp.org.