

Center for Socio-Global Informatics

[Cyber-Physical Systems based on Deep Understanding of Human Activities]

<http://www.csgi.iis.u-tokyo.ac.jp>

Director: Yoichi SATO

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Center for Socio-Global Informatics aims to establish and advance the emerging field of socio-global informatics on the integration of the cyber and physical worlds based on deep understanding of human activities at various levels ranging from each individual to a society. Period of installation: April 2013 ~ March 2023

KITSUREGAWA Lab.

Ew-503

- Database engineering
- High performance database engine
- Cyber-physical Services
- Ultra-large-scale Web archive system
- Cyber space analysis system
- Global environment information fusion system
- Reliable network control technologies for cloud computing



Huge-scale spatio-temporal visualization system on the display wall

TOYODA Lab.

Ew-503

- Web mining
- Web solutions
- Big data platform for mobility data analysis
- Large scale information visualization
- Advanced user interface



Visual analysis of information diffusion on Twitter



Visual analysis for assessing the risk of traffic accident

Yoshinaga Lab.

Ew-503

- Natural Language Processing
- Computational Linguistics
- Efficient Real-World Text Analysis
- Machine Translation and Dialogue Systems

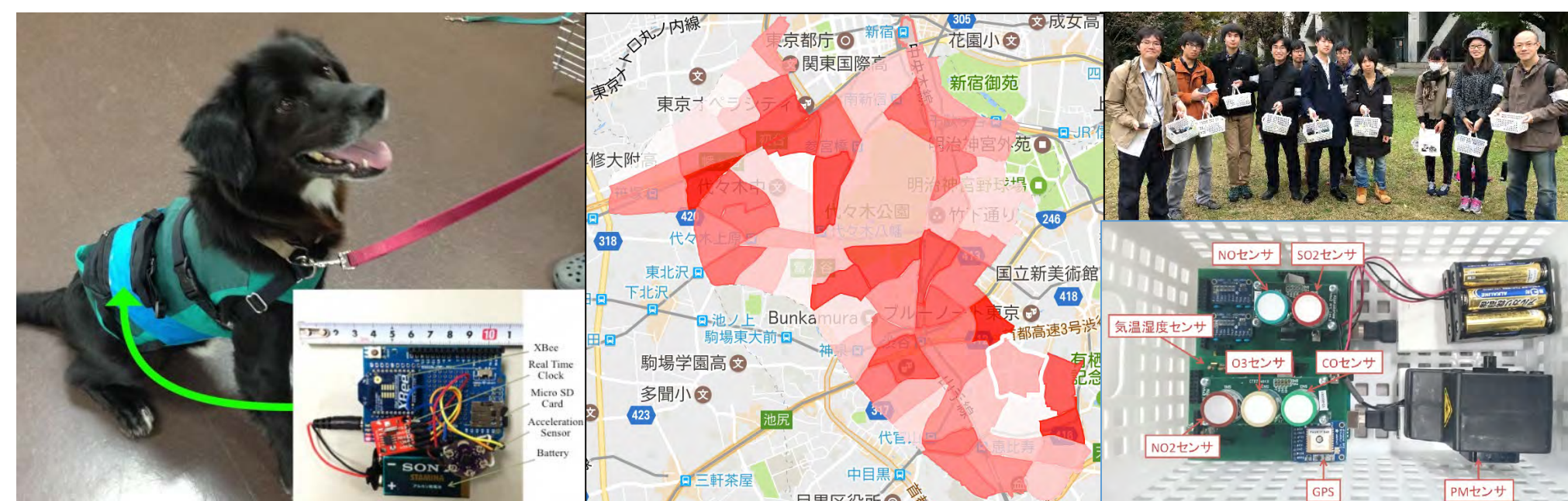
Real-Time Parsing / tweet+reply	ツイート数	単語
2011/03/11 14:00 - 16:00	36907	が 1824 地震 750 余震 514 津波 120 鉄道 61 火事 61 水災 39 選挙結果
2011/03/11 16:00 - 18:00	31028	が 986 余震 873 地震 512 津波 142 鉄道 70 二次災害 63 災害 40 度
2011/03/11 18:00 - 20:00	20857	が 702 地震 578 余震 214 津波 93 鉄道 71 火災 59 二次災害 48 災害
2011/03/11 20:00 - 22:00	19298	が 616 余震 782 地震 243 津波 84 鉄道 63 鉄道 45 災害 38 地震
2011/03/11 22:00 - 00:00	26359	が 831 余震 682 地震 511 津波 450 外伝 119 鉄道 78 災害 49 地震
2011/03/12 00:00 - 02:00	25726	が 1114 余震 470 地震 291 外伝 262 津波 80 選挙結果 60 地震 36 度
2011/03/12 02:00 - 04:00	10980	が 381 余震 211 地震 199 外伝 171 外伝 96 津波 90 度 41 地震
2011/03/12 04:00 - 06:00	19261	が 426 余震 390 地震 338 地震 252 外伝 79 緊急地震速報 66 津波 37 地震
2011/03/12 06:00 - 08:00	6313	が 190 余震 190 地震 114 度 93 津波 62 地震 60 外伝 38 緊急地震速報

Public emotions on microblogs

SEZAKI Lab.

Ew-601

- Urban environment sensing
- User mobility analysis
- Wireless sensor networks
- Privacy preserving in sensing



Environmental monitoring for urban and natural environment

GODA Lab.

Ew-503

- Super-fast Database Systems
- Energy-efficient Database Systems
- Intelligent Storage Systems

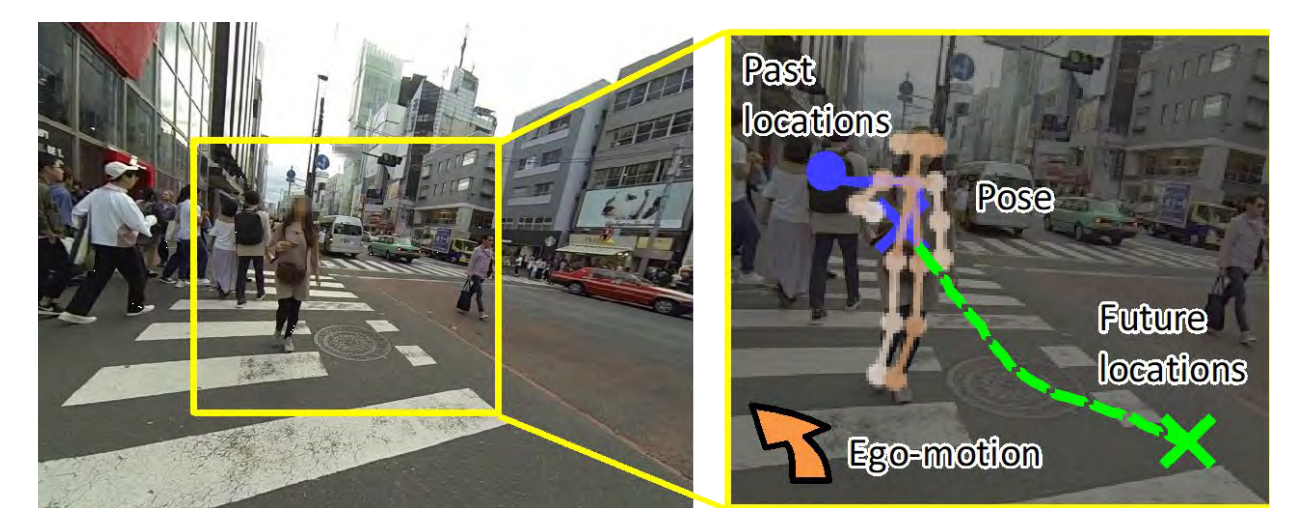


Prototype of Super-fast Database Engine

Y. SATO Lab.

Ee-402

- Computer vision
- Human activity recognition
- Gaze sensing and analysis
- Reflectance analysis and material recognition
- Face recognition under varying illumination



Predicting pedestrian's movements in first-person videos

KAMIJO Lab.

Ew-403

- GNSS Positioning
- 3D Map Construction
- Vehicle Self-localization
- Traffic Scene Understanding
- Intelligent Applications in Smartphones and Smart Glasses
- Customer Behavior Recognition
- V2V, V2P Communication
- Traffic Surveillance



Pedestrian navigation utilizing wearable devices

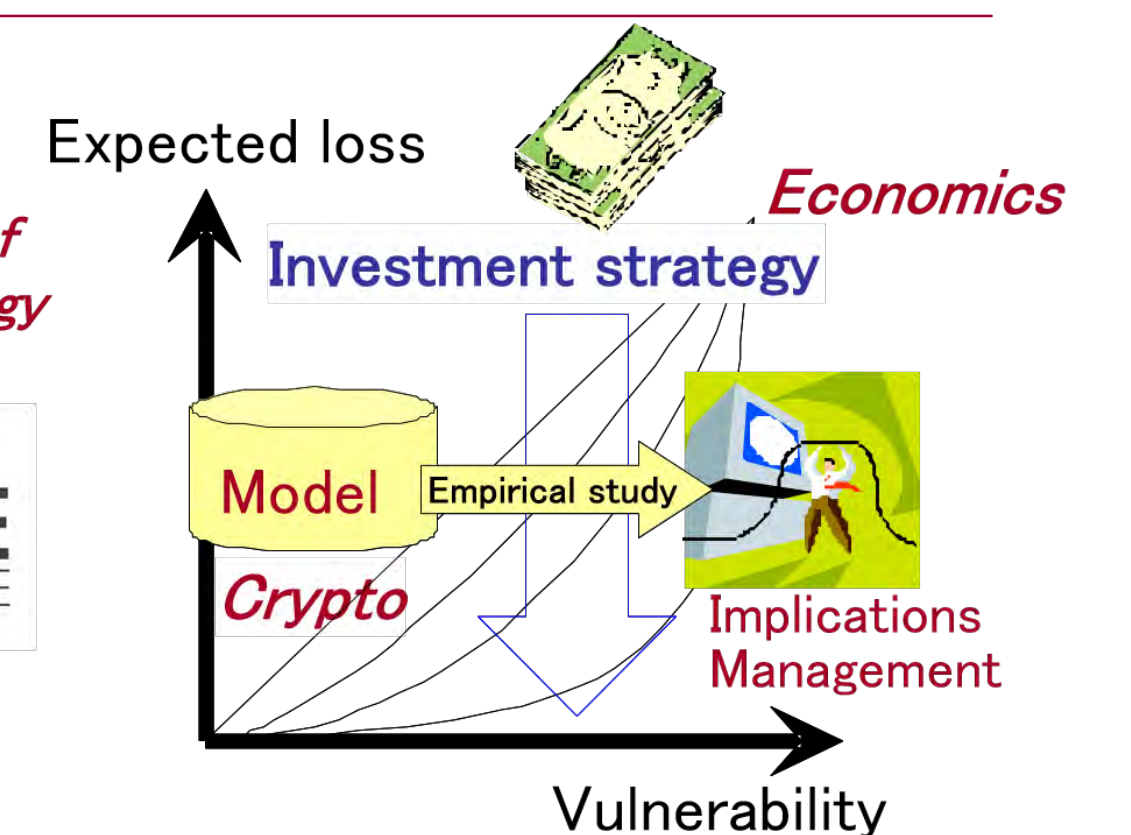
3D-GNSS positioning and 3D map construction

MATSUURA Lab.

Ew-401

- Cryptography
- Cybersecurity
- Anonymous communication system
- Economics of information security

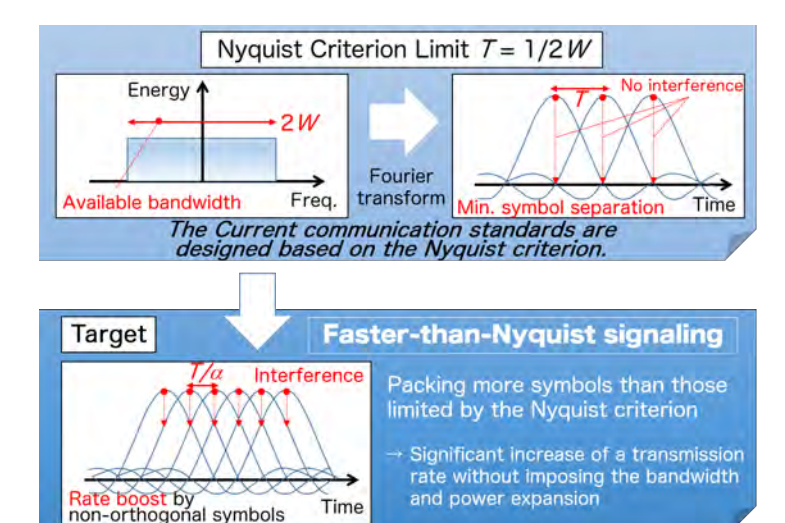
Research network of blockchain technology



SUGIURA Lab.

Ew-401

- Wireless Communication Networks
- Wireless Security
- Digital Signal Processing
- Distributed Storage

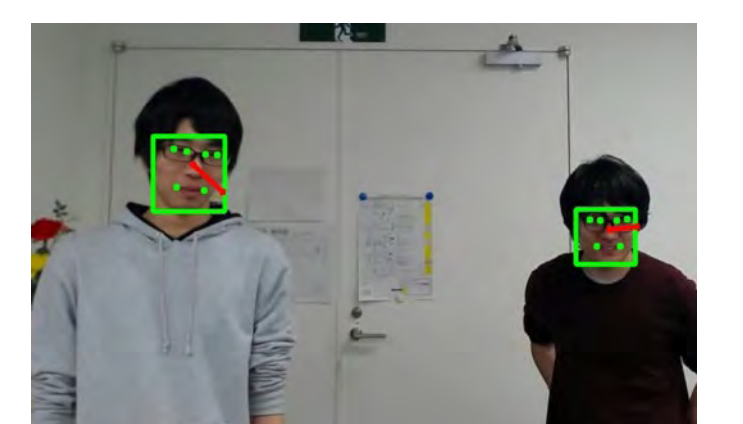


Faster-than-Nyquist signaling

SUGANO Lab.

Ew-406

- Gaze estimation and user understanding
- Computer vision and machine learning for HCI
- Interactive image and media understanding



Gaze estimation with machine learning