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## Summary

Our mission is to enhance human-computer collaboration and support human intellectual activities by effectively bridging between the real world and the computer world. To this end, we focus on not only the methodological development in the fields of machine learning, knowledge discovery and multimedia understanding, but also the application of our developed methods to specific domains like healthcare and education. One prominent characteristic of our research is the adoption of cloud-service platforms like AWS and high-performance servers equipped with many cores and GPUs for efficient execution of experiments.

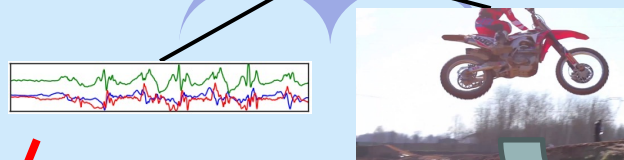


Various media representations

## Computer world

- Machine learning
- Data mining
- Pattern recognition
- Signal processing etc.

A person jumping with a motorcycle



## Real world

- Knowledge
- Cognition
- Intention
- Emotion
- Biological signal
- Diagnostic history etc.



Analysis/  
visualization  
of data  
and results

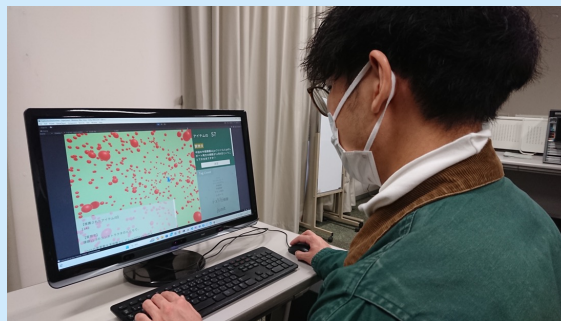


(Servers used in actual experiments)

(A scene of an actual experiment)

```
Tasks: 560 total, 1 running, 556 s
Ncpu(s): 73.2 us, 0.5 sy, 0.0 nt,
MIB Mem : 257381.4 total, 2193.8 f
MIB Swap: 8192.0 total, 6553.0 f

PID USER PR NI VIRT
889194 root 20 0 16150 175
889741 root 20 0 15.50 157
888775 root 20 0 16.00 186
1115002 kintakt 20 0 14520 4
1 root 20 0 107288 12
2 root 20 0 0
3 root 0 -20 0
4 root 0 -20 0
5 root 0 -20 0
6 root 0 -20 0
8 root 0 -20 0
kintakt@ec2: ~$
```



## Keys to our research

- Python as the main programming language
- Remote operation by ssh
- Construction of virtual environments by Docker
- Code management by Github
- Cloud servers like AWS