

# Takaaki FUKAI

Postdoctoral researcher in RIKEN Center of Computational Science

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## Affiliation

- Postdoctoral researcher in High Performance Big Data Research Team, RIKEN Center of Computational Science (R-CCS)
- Visited Researcher at Information Technology Center, The University of Tokyo

## Work Experience

**January 2020-Current:** Postdoctoral researcher in High Performance Big Data Research Team, RIKEN Center of Computational Science (R-CCS)

**June 2019-Current:** Visited Researcher at Information Technology Center, The University of Tokyo

**April 2018-December 2019:** Software Developer in IBM Japan

I have worked as a QA engineer of a web application and a DevOps engineer of a public cloud service and a private cloud production. My technical experiences in this position are software test, CI/CD, Jenkins, Docker, Kubernetes and Helm.

## Degrees

**September 2018:** Doctor of Philosophy in Engineering, University of Tsukuba  
Supervisor: Professor Kazuhiko Kato

**March 2015:** Master of Engineering, University of Tsukuba  
Supervisor: Professor Kazuhiko Kato

**March 2013:** Bachelor of Engineering, Okayama University  
Supervisor: Professor Hideo Taniguchi

## Research Interests

- OS Kernel, Virtualization Software (BitVisor, Linux kernel)
- Cloud Computing (Bare-metal clouds)

## Publications

### Journal Paper

1. Takaaki Fukai, Takahiro Shinagawa, Kazuhiko Kato.  
**Live Migration in Bare-metal Clouds.**  
IEEE Transactions on Cloud Computing, Jul 2018.  
(Open Access: <https://ieeexplore.ieee.org/document/8401692>)

### International Conference/Workshop Papers (Refereed)

1. Masanori Misono, Masahiro Ogino, Takaaki Fukai, Takahiro Shinagawa.  
**FaultVisor2: Testing Hypervisor Device Drivers against Real Hardware Failures.**  
In Proceedings of the 10th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2018), Dec 2018.  
(Acceptance Ratio: 19.8%) **[Best paper award]**.
2. Iori Yoneji, Takaaki Fukai, Takahiro Shinagawa and Kazuhiko Kato.  
**Unified Hardware Abstraction Layer with Device Masquerade.**  
In Proceedings of the 33rd ACM Symposium On Applied Computing (ACM SAC 2018), Apr 2018.
3. Ilias Avramidis, Michael Mackay, Posco Tso, Takaaki Fukai, Takahiro Shinagawa.  
**Live Migration on ARM-based Micro-datacentres.**  
In Proceedings of the 3rd Workshop on Edge Computing (EdgeCom 2018), Jan 2018.
4. Takaaki Fukai, Satoru Takekoshi, Kohei Azuma, Takahiro Shinagawa and Kazuhiko Kato.  
**BMCArmor: A Hardware Protection Scheme for Bare-Metal Clouds.**  
In Proceedings of the 9th IEEE International Conference on Cloud Computing Technology and Science (CloudCom 2017), Dec 2017.
5. Takaaki Fukai, Yushi Omote, Takahiro Shinagawa, and Kazuhiko Kato.  
**OS-Independent Live Migration Scheme for Bare-metal Clouds.**  
In Proceedings of the 8th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2015), Dec 2015.  
**[Best paper award]**.

### International Conference/Workshop Posters (Refereed)

1. Ryosuke Yasuoka, Takaaki Fukai and Takahiro Shinagawa.  
**Toward On-demand Nested Virtualization for Live-Refreshing Cloud Systems.**  
The Fifteenth EuroSys Conference 2020 (EuroSys '20), April, 2020 (To be appear).
2. Takaaki Fukai, Yushi Omote, Takahiro Shinagawa, and Kazuhiko Kato.  
**Live Migration of Bare-metal Instances.**  
5th Asia-Pacific Workshop on Systems (APSys 2014), June, 2014

## Award

- **IEEE Computer Society Japan Chapter Young Author Award 2019.**  
IEEE Computer Society Tokyo/Japan Joint Chapter, December 2019.
- **Best Paper Award.**  
The 10th IEEE International Conference on Cloud Computing Technology and Science, December 2018.
- **Best Paper Award.**  
The 8th IEEE/ACM International Conference on Utility and Cloud Computing, December 2015.

## Other Activity

**Profile page (on Github pages)** <https://fukai-t.github.io/profile-page/>

**ResearchGate** [https://www.researchgate.net/profile/Takaaki\\_Fukai](https://www.researchgate.net/profile/Takaaki_Fukai)

**Linkedin** <https://www.linkedin.com/in/takaaki-fukai-b378a7141/?originalSubdomain=jp>

**Slideshare** <http://www.slideshare.net/DeepTokikane/presentations>

**Github** <https://github.com/fukai-t>

**Bitbucket** <https://bitbucket.org/ftakaaki/>