

Takuya Nakabayashi

PHD STUDENT · SCHOOL OF SCIENCE FOR OPEN AND ENVIRONMENTAL SYSTEMS

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Education

Keio University

PH.D STUDENT

- Advisor: Dr. Hideo Saito

3-14-1, Hiyoshi, Kohoku-ku,
Yokohama, Japan
September 2023 - present

Keio University

MS DEGREE

- Advisor: Dr. Hideo Saito

3-14-1, Hiyoshi, Kohoku-ku,
Yokohama, Japan
April 2022 - September 2023

Keio University

BS UNDERGRADUATE DEGREE

- Honors thesis/undergrad research advisor: Dr. Hideo Saito

3-14-1, Hiyoshi, Kohoku-ku,
Yokohama, Japan
April 2018 - March 2022

Publications

PUBLISHED

Takuya Nakabayashi, Kyota Higa, Masahiro Yamaguchi, Ryo Fujiwara, Hideo Saito. "Event-based Ball Spin Estimation in Sports". Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2024, pp. 3367-3375.

Takuya Nakabayashi, Hideo Saito. "Multimodal Human Activity Recognition on Edge Devices". 2024 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), 2024, pp. 136-140.

Takuya Nakabayashi, Hideo Saito. "Unsupervised Fall Detection on Edge Devices". 18th International Conference on Machine Vision Applications, 2023.

Takuya Nakabayashi, Akimasa Kondo, Kyota Higa, Andreu Girbau, Shin'ichi Satoh, Hideo Saito. "Event-based high-speed ball detection in sports video". ACM MM 2023 Workshop MMSports, 2023, pp. 55-62.

Takuya Nakabayashi, Kunihiro Hasegawa, Masakazu Matsugu, Hideo Saito. "Event-Based Blur Kernel Estimation for Blind Motion Deblurring". Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops, 2023, pp. 4119-4127.

Hiroyuki Deguchi, Mana Masuda, **Takuya Nakabayashi**, Hideo Saito. "E2gs: Event enhanced gaussian splatting". 2024 IEEE International Conference on Image Processing (ICIP), 2024, pp. 1676-1682.

Kanon Sato, **Takuya Nakabayashi**, Masahiro Yamaguchi, Kyota Higa, Ryo Fujiwara, Hideo Saito "Time-consistent Ball Tracking and Spin Estimation with Event Camera". Proceedings of the 7th ACM International Workshop on Multimedia Content Analysis in Sports, 2024, pp. 59-64.

Awards, Fellowships, & Grants

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|------|--|------------|
| 2024 | JST Broadening Opportunities for Outstanding young researchers and doctoral students in STrategic areas (BOOST), Japan Science and Technology Agency | ¥3,600,000 |
| 2024 | JST Support for Pioneering Research Initiated by the Next Generation (SPRING), Japan Science and Technology Agency | ¥2,200,000 |
| 2024 | JSPS Overseas Challenge Program for Young Researchers, Japan Society for the Promotion of Science | ¥1,400,000 |

2022 **Keio Kogakukai Award**, Keio Kogakukai

Research Experience

Max Planck Institute for Informatics - D6: Visual Computing and Artificial Intelligence

ADVISOR: DR. VLADISLAV GOLYANIK

- work as a PhD student intern

Saarbrücken, Germany

Oct. 2024 - Feb. 2025