# Naoto Ohsaka

Curriculum Vitae
Last modified: 2018/03/29

## Personal and contact information


| | |
|---|---|
| Name: | Naoto Ohsaka |
| Citizenship: | Japan |
| Current position: | N/A |
| Address: | N/A |
| E-mail: | naoto.ohsaka@gmail.com |
| Webpage: | https://todo314.github.io/ |


## Education

| | |
|---|---|
| March 2018 | Doctor of Information Science and Technology, Department of Computer Science, Graduate School of Information Science and Technology, the University of Tokyo<br>*Title*: Efficient and Effective Identification of Influential Vertices in Social Networks<br>*Supervisor*: Professor H. Imai |
| March 2015 | Master of Information Science and Technology, Department of Computer Science, Graduate School of Information Science and Technology, the University of Tokyo<br>*Title*: Estimating and Maximizing the Spread of Influence in Social Networks: Pruned Monte-Carlo Simulations and Fully-Dynamic Indices<br>*Supervisor*: Professor H. Imai |
| March 2013 | Bachelor of Engineering, Department of Computer Science, the University of Electro-Communications<br>*Title*: Study on Improving the Performance of a Streaming Algorithm for the k-means Problem<br>*Supervisor*: Professor M. Muramatsu |
| March 2011 | Graduated from Tokyo National College of Technology |

## Professional experience

April 2013–March 2016 Research assistant of the Complex Network and Map Graph Group, JST, ERATO, Kawarabayashi Large Graph Project

## Referee

1. Conference referee: AAAI'16 (subreviewer)
2. Journal reviewer: IEICE Transactions on Information and Systems

## Honors and awards

| | |
|---|---|
| November 2012 | 3rd Place (with Izuru Matsuura and Masafumi Yabu), ACM International Collegiate Programming Contest Asia Regional Contest 2012 in Tokyo, Tokyo, Japan |
| July 2013 | 14th Place (with Izuru Matsuura and Masafumi Yabu), ACM International Collegiate Programming Contest World Finals 2013, St. Petersburg, Russia |
| March 2014 | Excellent Paper Award (with Takuya Akiba, Yuichi Yoshida, and Ken-ichi Kawarabayashi), the 6th Forum on Data Engineering and Information Management, Hyogo, Japan |
| March 2014 | Student Presentation Award, the 6th Forum on Data Engineering and Information Management, Hyogo, Japan |
| May 2015 | Poster presentation award, the 29th Annual Conference of the Japanese Society for Artificial Intelligence, Hokkaido, Japan |

## Publications

1. Naoto Ohsaka, Daisuke Kitakoshi, and Masato Suzuki. **A Reinforcement Learning Method to Improve the Sweeping Efficiency for an Agent**. *Proceedings of the 2011 IEEE International Conference on Granular Computing (GrC)*, pp. 515–520, 2011.

2. Naoto Ohsaka, Takuya Akiba, Yuichi Yoshida, and Ken-ichi Kawarabayashi. **Fast and Accurate Influence Maximization on Large Networks with Pruned Monte-Carlo Simulations**. *Proceedings of the 28th AAAI Conference on Artificial Intelligence (AAAI)*, pp. 138–144, 2014
3. Naoto Ohsaka, Takanori Maehara, and Ken-ichi Kawarabayashi. Efficient PageRank Tracking in Evolving Networks. *Proceedings of the 21st ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, pp. 875–884, 2015.

4. Naoto Ohsaka and Yuichi Yoshida. **Monotone *k*-Submodular Function Maximization with Size Constraints**. *Proceedings of the 29th Annual Conference on Neural Information Processing Systems (NIPS)*, pp. 694–702, 2015.

5. Naoto Ohsaka, Takuya Akiba, Yuichi Yoshida, and Ken-ichi Kawarabayashi. **Dynamic Influence Analysis in Evolving Networks**. *Proceedings of the VLDB Endowment, (PVLDB)*, 9(12), pp. 1077–1088, 2016.

6. Naoto Ohsaka, Yutaro Yamaguchi, Naonori Kakimura, and Ken-ichi Kawarabayashi. **Maximizing Time-Decaying Influence in Social Networks**. *Proceedings of the 15th European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD)*, pp. 132–147, 2016.

7. Naoto Ohsaka and Yuichi Yoshida. **Portfolio Optimization for Influence Spread**. *Proceedings of the 26th International Conference on World Wide Web (WWW)*, pp. 977–985, 2017.

8. Naoto Ohsaka, Tomohiro Sonobe, Sumio Fujita, and Ken-ichi Kawarabayashi. **Coarsening Massive Influence Networks for Scalable Diffusion Analysis**. *Proceedings of the 2017 ACM SIGMOD International Conference on Management of Data (SIGMOD)*, pp. 635–650, 2017.

9. Yoichi Iwata, Tomoaki Ogasawara, and Naoto Ohsaka. **On the Power of Tree-Depth for Fully Polynomial FPT Algorithms**. *Proceedings of the 35th International Symposium on Theoretical Aspects of Computer Science (STACS)*, pp. 41:1–41:14, 2018.

## Presentations

| | |
|---|---|
| November 2011 | Oral presentation of Publication 1 in Kaohsiung, Taiwan |
| July 2014 | Oral and poster presentation of Publication 2 in Québec, Canada |
| August 2015 | Oral and poster presentation of Publication 3 in Sydney, Australia |
| December 2015 | Poster presentation of Publication 4 in Montréal, Canada |
| September 2016 | Oral and poster presentation of Publication 5 in New Delhi, India |
| September 2016 | Oral and poster presentation of Publication 6 in Riva del Garda, Italy |
| April 2017 | Oral presentation of Publication 7 in Perth, Australia |
| May 2017 | Oral and poster presentation of Publication 8 in Chicago, USA |

## Research interests

Anything related to algorithms, e.g., algorithms for real-world large graphs, network diffusion, submodular function optimization, uncertain graphs

## Skills

Programming languages (C/C++, Java, Ruby)