

# Linlin Jia

*Ph.D. candidate*

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Date of Birth: 21 March, 1992  
Gender: Male

## Education

- 2017–Now **Ph.D. candidate in Computer Science, INSA Rouen, Normandie Université, France.**  
Research subject: Machine learning and pattern recognition in chemoinformatics. Problematics addressed by my thesis consist of tackling open problems lying at the interface between graphs and machine learning methods, including applying graph kernel within chemoinformatics and building new preimage methods for graphs.
- 2014–2017 **M.Sc. in Software Engineering, Xian Jiaotong University, China.**
- 2010–2014 **B.S. in Information Engineering, Xian Jiaotong University, China.**

## Research Interests

- Preimage problems on graphs.
- Graph kernel within chemoinformatics.
- Graph edit distances.

## Publications

- [J1] Linlin Jia, Benoit Gaüzère, and Paul Honeine. graphkit-learn: A python library for graph kernels based on linear patterns. Pattern Recognition Letters, 2021. [\[preprint\]](#) [\[code\]](#) [\[link\]](#) [\[doi\]](#)
- [W1] Linlin Jia, Benoit Gaüzère, and Paul Honeine. A Graph Pre-image Method Based on Graph Edit Distances. Proceedings of IAPR Joint International Workshops on Statistical techniques in Pattern Recognition (SPR 2020) and Structural and Syntactic Pattern Recognition (SSPR 2020). 2021. [\[preprint\]](#) [\[video\]](#) [\[slides\]](#)
- [W2] Linlin Jia, Benoit Gaüzère, Florian Yger and Paul Honeine. A Metric Learning Approach to Graph Edit Costs for Regression. Proceedings of IAPR Joint International Workshops on Statistical techniques in Pattern Recognition (SPR 2020) and Structural and Syntactic Pattern Recognition (SSPR 2020). 2021. [\[preprint\]](#) [\[video\]](#) [\[slides\]](#)
- [PP1] Linlin Jia, Benoit Gaüzère, and Paul Honeine. Graph Kernels Based on Linear Patterns: Theoretical and Experimental Comparisons. working paper or preprint, March 2019. (submitted to *Expert Systems with Applications*) [\[preprint\]](#)
- [P1] Qu Hua, Zhao Jihong, Wu Jinkang, Jia Linlin, etc., A Kind of Name Data Network Mobility Switching Method Predicted Using ELM: China, CN106376041B[P] [\[patent\]](#)

## Libraries

- **graphkit-learn**: A Python package on graph kernels, graph edit distances and graph pre-image problem. [\[homepage\]](#)

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## Research Experience

- Jan 2021 **S+SSPR Workshops 2020.**
- Two video presentations on papers [W1] and [W2]. [\[video1\]](#) [\[video2\]](#) [\[link\]](#)
- Sep 2020 **2020 online CSC-Seminar in DE. and Fr..**
- Presenting a work: *A graph pre-image method based on graph edit distances*. [\[slides\]](#) [\[award\]](#)
- 2018 **Machine Learning Summer School 2018 Madrid.**
- 54-hour courses.
  - A Machine Learning in the Industry session.
  - Presenting a poster at the poster session. [\[poster\]](#)
- 2016 **Summer Program at the National University of Singapore.**
- Main courses: Biometrics in Depth, Computational Thinking and Community Detection in Large Graphs. I learned basic algorithms concerning pattern recognition, image processing, big data, community detection and graph theory, and finished a project that used a cluster method to find out the relationships between a specific disease and possible micro RNAs.
  - I received As in both courses.

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## Projects

- 2018–Now **The grant APi.**
- The grant APi (Apprivoiser la Pré-image) is funded by the French national research agency (ANR) for research of the preimage in machine learning for structured data. I worked on the pattern recognition on discrete structured spaces. I have submitted 1 journal paper [PP1], published 1 journal paper [J1] and 2 workshop papers [W1, W2], and published a library online available on GitHub ([github.com/jajupmochi/graphkit-learn](https://github.com/jajupmochi/graphkit-learn)).
- 2014–2017 **Research on Service-oriented Programmable Control and Scheduling Scheme for Software Defined Network.**
- I applied extreme learning machine on the prediction of the network mobility, and published a patent on it [P1].
- 2014 **The Citi Financial Innovation Application Competition.**
- We developed a multi-dimension dynamic credit evaluation system based on big data. I participated in the design and implementation of the system, including the database, the website and the application on Android. We won the national third prize.

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## Honors and Awards

- 2017–2021 Scholarship of China Scholarship Council (CSC) for Ph.D. candidate for 42 months.
- 2015–2016 Honor of Outstanding Graduate Student.
- 2014 The National Third Prize of the Citi Financial Innovation Application Competition.
- 2012 The Second Prize of Chinese Mathematical Contest in Modeling.
- 2011–2013 "Siyuan" Scholarship of Xi'an Jiaotong University.

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## Skills

- Programming **Strong programming ability with Python and MATLAB, familiar with C++.**
- Languages **Fluent in Chinese and English, French on B2 level.**
- TOEFL IBT in October 2016, I scored 103 out of 120.
  - TCF in June 2017, I scored 400 out of 600.
  - Currently working as a translation and proofreading volunteer in simplified Chinese translation team of Khan Academy. Have translated/proofread more than 100,000 words. [\[intro\]](#)