

# Shu LI

*PhD Student at Inria Paris and DIENS*

✉ [shu.li@inria.fr](mailto:shu.li@inria.fr)  
🌐 [shuligraph.github.io](https://shuligraph.github.io)  
🔍 [Google Scholar](#)  
📄 [ResearchGate](#)  
🆔 [ORCID](#)  
🐙 [GitHub](#)

## Education

- 2023–now **PhD in CS**, [ARGO](#) of [Inria](#) and [DIENS](#), Paris 75012, France  
Title [Learning in dynamic matching models](#)  
Supervisor [Ana Bušić](#)  
Description Doing
- 2020–2023 **Master of Science**, Graph Theory and its Application, Shandong University of Technology, Zibo 255000, China  
Title [On the Matrix-Tree Theorems of Graphs](#)  
Supervisor [Jianfeng Wang](#)  
Description We systematically study various Matrix-Tree Theorems for various graphs with elementary proofs, including [directed graphs](#), mixed graphs, oriented graphs, complex unit gain graphs and [signed graphs](#). Indeed, we provide some novel results, which are extensions of Kirchhoff's Matrix-Tree Theorem.
- 2015–2019 **Bachelor of Science**, Mathematics and Applied Mathematics, Shandong University of Technology  
Courses *Linear Algebra, Advanced Calculus, Probability and Statistics, Applied Probability Statistics, Applied Stochastic Processes, Operational Research*

## Publications and Preprints

- 2023 [Matrix-Tree Theorem of digraphs via signless Laplacians](#)  
[S. Li, L. Lu, J. Wang, W. Wang, \*Linear Algebra and its Application\*.](#)  
[Yet more elementary proof of Matrix-Tree Theorem for signed graphs](#)  
[S. Li, J. Wang, \*Algebra Colloquium\*.](#)  
[On graphs with small ranks: old and new results](#)  
[S. Li, Z. Stanić, J. Wang, \*Advances in Mathematics\(China\)\*.](#)
- 2017 [Equivalence Relation and Function](#)  
[S. Li, H. Li, \*Linear Int. J. Trend Res. Dev\*.](#)
- Preprints** [Matrix-Tree Theorems for Complex Unit Gain Networks](#)  
[S. Li, J. Wang, M. Dehmer, M. Brunetti.](#)

A graph discretization of vector Laplace operator

S. Li, L. Lu, J. Wang.

---

## Talks

2023 **On the Matrix-Tree Theorems of Graphs**

The Third SDUT Postgraduate Academic Forum, May, 2023, Zibo, China.

2022 **On graphs with small ranks: old and new results**

The 10th Int'l Combinatorics and Graph Theory Conference (CMS-CGT2022), August, 2022, Harbin, China.

**A Survey on Matrix-Tree Theorem of Graphs**

The 9th Int'l Symposium on Graph Theory and Combinatorial Algorithms (ORSC-GTCA2022), July, 2022, Hangzhou, China.

---

## Computer skills

Programming Python, SageMath, C/C++, Mathematica

Tools WSL2, Git,  $\LaTeX$

---

## Languages

 Hello  Bonjour  Ni Hao