

Chi Zhao (Vector)

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EDUCATION

Saint Petersburg State University <i>PhD in Applied Mathematics and Control Processes</i>	Sept. 2021 – Apr. 2025 <i>Saint Petersburg, Russia</i>
Saint Petersburg State University <i>M.S. in Applied Mathematics and Informatics (GPA: 4.9/5.0)</i>	Sept. 2019 – Jun. 2021 <i>Saint Petersburg, Russia</i>
Beijing Institute of Technology <i>ACM Summer Camp</i>	Jul. 3 – 28, 2017 <i>Beijing, China</i>
Yanan University <i>B.S. in Computer Science (GPA: 3.1/4.0)</i>	2015 – 2019 <i>Yanan, China</i>

WORKING EXPERIENCE

Huawei Inc. <i>Researcher</i>	Sep. 2021 – Present <i>Saint Petersburg, Russia</i>
Wisedu Inc. <i>Software Engineer</i>	Sep. 2016 – May. 2019 <i>Yanan, China</i>

PROJECT EXPERIENCE

Russian Science Foundation Grant No. 22-21-00346 <i>Researcher</i>	2023 <i>Saint Petersburg, Russia</i>
Fast calculation of massive high dimensional vector similarity <i>Algorithm Engineer</i> This project improves the efficiency of the nearest neighbor algorithm and won the 3 rd prize in the China Software Cup 2018.	May 2018 – Aug. 2018 <i>Yanan, China</i>
Online news classification system based on CNN <i>Full Stack Engineer</i> This project has obtained a Chinese software registration certificate and won the 3 rd prize in the Computer Design Competition 2018.	Mar. 2018 – May. 2018 <i>Yanan, China</i>

PATENT / COPYRIGHT CERTIFICATES

A program for modeling the opinion dynamics in two-layer networks <i>Russian Computer Software Copyright Registration Certificate</i>	2023 NO. 2023661532
Online News Classification System Based on Convolutional Neural Network <i>Chinese Computer Software Copyright Registration Certificate</i>	2018 <i>NO. 2018SR502097</i>

OPEN SOURCE PROJECTS

[ShapG](#) | *python · feature importance algorithm · centrality measures*

- A Python package for feature importance algorithms based on Shapley values.
- This package can also be used to calculate the centrality in the graph.

[News Classification](#) | *python · NLP · CNN · text classification*

- Online News Classification System Based on Convolutional Neural Network.
- This project was awarded the provincial 3rd prize in the 2018 national computer design competition.

SKILLS

Programming: Python · C/C++ · Go · Matlab/Octave · Julia · R · SQL · \LaTeX
ML Libraries: Tensorflow · PyTorch · Keras · Scikit-Learn
Developer Tools: Git · Docker · Google Cloud Platform
OS: Windows · MacOS · Arch Linux
Languages: Chinese (native), and English (fluent)

RESEARCH INTERESTS

Graph Algorithms · Centrality Measures · Machine learning · Explainable Artificial Intelligence · Probability Theory · Statistics
 Data Compression · Coding Theory · Time Series Analysis · Optimization · Stochastic Modeling · Stochastic Processes

SELECTED PUBLICATIONS

1. **Zhao C.**, Liu J., Parilina E. M. Complete-to-Sparse: A Novel Graph Construction Strategy for Efficient ShapG // *Mathematical Optimization Theory and Operations Research*. – Cham : Springer Nature Switzerland. – 2025. – P. 180–194.
2. **Zhao C.**, Liu J., Parilina E. M. ShapG: new feature importance method based on the Shapley value // *Engineering Applications of Artificial Intelligence*. – 2025. – May. – Vol. 148, 110409. (**Q1**, **IF: 8.0**)
3. **Zhao C.**, Parilina E. M. Centrality measures and opinion dynamics in two-layer networks with replica nodes // *arXiv preprint arXiv:2406.18780v2*. – 2024. – 2406.18780v2.
4. **Zhao C.**, Parilina E. M. Analysis of consensus time and winning rate in two-layer networks with hypocrisy of different structures // *Vestnik of Saint Petersburg University. Applied Mathematics. Computer Science. Control Processes*. – 2024. – Vol. 20, no. 2. – P. 170-192.
5. **Zhao C.**, Parilina E. M. Opinion Dynamics in Two-Layer Networks with Hypocrisy // *Journal of the Operations Research Society of China*. – 2024. – Mar. – Vol. 12, no. 1. – P. 109-132. (**Q2**)
6. **Zhao C.**, Parilina E. M. Network Structure Properties and Opinion Dynamics in Two-Layer Networks with Hypocrisy // *Mathematical Optimization Theory and Operations Research*. – Cham : Springer Nature Switzerland. – 2024. – P. 300-314.
7. **Zhao C.**, Parilina E. M. Consensus time and winning rate based on simulations in two-layer networks with hypocrisy // *2023 7th Scientific School Dynamics of Complex Networks and their Applications (DCNA)*. – 2023. – P. 68-71.

COMMUNITY SERVICE

Reviewer for journals and conferences

- Engineering Applications of Artificial Intelligence (EAAI)
- International Conference On Computational Optimization (ICOMP)

CONFERENCES

Mathematical Optimization Theory and Operations Research (MOTOR 2025) <i>Oral Presentation</i>	Novosibirsk, Russia <i>July. 07 - 11, 2025</i>
Game Theory and Management (GTM 2025) <i>Oral Presentation</i>	Saint-Petersburg, Russia <i>July. 2 - 4, 2025</i>
International Conference On Computational Optimization (ICOMP 2024) <i>Visitor</i>	Innopolis, Russia <i>Oct. 10 - Oct. 12, 2024</i>
Mathematical Optimization Theory and Operations Research (MOTOR 2024) <i>Oral Presentation</i>	Omsk, Russia <i>June. 30 - July. 06, 2024</i>
Game Theory and Management (GTM 2024) <i>Oral Presentation</i>	Saint-Petersburg, Russia <i>June. 26 - 28, 2024</i>
Dynamics of Complex Networks and their Applications (DCNA 2023) <i>Poster Presentation</i>	Kaliningrad, Russia <i>Sep. 18 - 20, 2023</i>
Game Theory and Management (GTM 2023) <i>Oral Presentation</i>	Saint-Petersburg, Russia <i>June. 28 - 30, 2023</i>
Control Processes and Stability 2022 <i>Oral Presentation</i>	Saint-Petersburg, Russia <i>Apr. 4 - 8, 2022</i>
Control Processes and Stability 2021 <i>Oral Presentation</i>	Saint-Petersburg, Russia <i>Apr. 5 - 9, 2021</i>
The Computing Conference 2017 <i>Visitor</i>	Hangzhou, China <i>Oct. 11 - 14, 2017</i>
Yiban Developer Conference 2017 <i>Developer</i>	Shanghai, China <i>Aug. 2017</i>
Language & Intelligence Summit 2017 <i>Visitor</i>	Beijing, China <i>July 23, 2017</i>

TEACHING

Applied Statistics in R <i>Teaching assistant</i>	Saint-Petersburg, Russia 2024
Statistical Decisions and Econometrics <i>Teaching assistant</i>	Saint-Petersburg, Russia 2022

HONOURS & AWARDS

<i>Name</i>	<i>Placing</i>	<i>Scope</i>	<i>Awarder</i>	<i>Year</i>
Diploma with distinction	-	University	Saint Petersburg State University	Jun. 2021
Excellent Graduation Thesis (Design)	-	University	Yanan University	Jun. 2019
Excellent Graduate	-	University	Yanan University	Jun. 2019
Merit Student Scholarship	-	University	Yanan University	Dec. 2018
China Software Cup Competition	3 rd	China	China Software Cup Organizing Committee	Oct. 2018
Computer Design Competition	3 rd	Northwest China	Northwest University (China)	May. 2018
Mathematical Contest in Modeling	2 nd	Shaanxi	China Society for Industrial and Applied Mathematics	Dec. 2017
Mathematics Competition	3 rd	Shaanxi	Chinese Mathematical Society	Nov. 2016