

# Artavazd Maranjyan

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## Education

- **Ph.D. in Computer Science** Thuwal, Saudi Arabia  
2023 – 2025
  - King Abdullah University of Science and Technology (KAUST)
  - Advisor: Peter Richtárik
- **M.Sc. in Applied Statistics and Data Science** Yerevan, Armenia  
2021 – 2023
  - Yerevan State University
    - Thesis: On local training methods; co-supervisors: Peter Richtárik, Mher Safaryan
- **B.Sc. in Informatics and Applied Mathematics** Yerevan, Armenia  
2017 – 2021
  - Yerevan State University
    - Thesis: On the Convergence of Series in Classical Systems; supervisor: Martin Grigoryan

## Selected Industry and Academic Experiences

- **Research visit to Yi-Shuai Niu** Beijing, China  
9-22 March 2025
  - Beijing Institute of Mathematical Sciences and Applications (BIMSA)
    - Gave talks at three universities (PKU, BUAA, BIMSA)
    - Worked with Professor Yi-Shuai Niu on a project on Server-Assisted Federated Learning
- **Internship in the group of Peter Richtárik** Thuwal, Saudi Arabia  
June 2022 – January 2023
  - King Abdullah University of Science and Technology (KAUST)
    - Worked on the "GradSkip: Communication-Accelerated Local Gradient Methods with Better Computational Complexity" paper
- **Co-Founder** Yerevan, Armenia  
July 2021 – June 2022
  - OnePick
    - Built an MVP platform to help content creators and marketers generate or select photos that best matched their text descriptions
    - Participated in the InVent 2.0 venture building program, advancing through team formation, idea generation, product development, and pitching
    - Secured initial funding and continued development beyond the program
- **Software Engineer in Test** Yerevan, Armenia  
September 2019 – January 2021
  - Picsart
    - Worked with automation team to design and develop automated solutions across several mobile/web applications
    - Worked directly with software developers, test engineers, product owners, business analysts to find and resolve issues
    - Worked closely with DevOps to suggest improvements in processes and in Jenkins Continuous Integration cycle

## Awards

- **CEMSE Dean's List Award** May 2025
  - King Abdullah University of Science and Technology (KAUST)  
Awarded for excellent academic and research performance (\$2,500 prize)
- **Dean's Award** September 2023
  - King Abdullah University of Science and Technology (KAUST)  
Awarded to a few top students accepted to KAUST (\$6,000 annually for 3 years)
- **Outstanding Final Project Award** May 2021
  - Yerevan State University  
Recognized for the Bachelor's thesis (awarded to 6 students among 250+ students)

## Selected Publications

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5. Ringleader ASGD: The First Asynchronous SGD with Optimal Time Complexity under Data Heterogeneity  
Artavazd Maranjanian, Peter Richtárik  
*Submitted to ICLR 2026*
4. Ringmaster ASGD: The First Asynchronous SGD with Optimal Time Complexity  
Artavazd Maranjanian, Alexander Tyurin, Peter Richtárik  
*ICML 2025: Forty-Second International Conference on Machine Learning*
3. ATA: Adaptive Task Allocation for Efficient Resource Management in Distributed Machine Learning  
Artavazd Maranjanian, El Mehdi Saad, Peter Richtárik, Francesco Orabona  
*ICML 2025: Forty-Second International Conference on Machine Learning*
2. MindFlayer SGD: Efficient Parallel SGD in the Presence of Heterogeneous and Random Worker Compute Times  
Artavazd Maranjanian, Omar Shaikh Omar, Peter Richtárik  
*UAI 2025: The 41st Conference on Uncertainty in Artificial Intelligence*  
*OPT 2024: Optimization for Machine Learning (NeurIPS workshop)* **Oral presentation (top 5% of 107 submissions)**
1. GradSkip: Communication-Accelerated Local Gradient Methods with Better Computational Complexity  
Artavazd Maranjanian, Mher Safaryan, Peter Richtárik  
*TMLR 2025: Transactions on Machine Learning Research*

## Reviewing

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- 2024–Now *Transactions on Machine Learning Research (TMLR)*  
2026 *International Conference on Learning Representations (ICLR)*  
2024 *SIAM Journal on Mathematics of Data Science (SIMODS)*  
2024 *The Journal of Machine Learning Research (JMLR)*

## Selected Talks

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- 35º Colóquio Brasileiro de Matemática**  
5. *Instituto Nacional de Matemática Pura e Aplicada (IMPA)*  
Delivered a talk and a poster on **Ringmaster ASGD: The First Asynchronous SGD with Optimal Time Complexity** [[slides](#)] [[poster](#)]
  - Federated Learning One World Seminar (FLOW)**  
4. *FLOW Talk #126*  
Delivered a talk on **Ringmaster ASGD: The First Asynchronous SGD with Optimal Time Complexity** [[video](#)] [[slides](#)]
  - MLR Weekly Seminar**  
3. *Machine Learning Research at Apple*  
Invited by [Samy Bengio](#) to give a talk on **MindFlayer: Efficient Asynchronous Parallel SGD in the Presence of Heterogeneous and Random Worker Compute Times** [[slides](#)]
  - Algorithms & Computationally Intensive Inference seminars**  
2. *University of Warwick*  
Delivered a talk on **GradSkip: Communication-Accelerated Local Gradient Methods with Better Computational Complexity** [[slides](#)]
  - Federated Learning One World Seminar (FLOW)**  
1. *FLOW Talk #88*  
Delivered a talk on **GradSkip: Communication-Accelerated Local Gradient Methods with Better Computational Complexity** [[video](#)]
- Rio de Janeiro, Brazil**  
July 27–31, 2025
- Online**  
April 16, 2025
- Online**  
November 21, 2024
- Coventry, England**  
October 6, 2023
- Online**  
December 7, 2022

## Hobbies

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Ultimate Frisbee, Dancing (bachata, salsa), [Board Games](#), Foosball