

Firas Jolha

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SUMMARY

PhD candidate and senior lecturer specializing in software engineering, machine learning, data engineering, and MLOps. Six years of experience designing and delivering graduate and undergraduate courses (Applied Statistics, MLOps, Big Data, and Machine Learning); building reproducible hands-on labs with Docker, Python, and Apache Spark; and supervising capstone and research projects. Published researcher with several peer-reviewed papers; skilled in curriculum design, program leadership, and industry collaboration to align coursework with production-ready workflows. Seeking a lecturer role to combine teaching excellence, active research, and industry-relevant curriculum development.

WORK EXPERIENCE

Senior Instructor – Innopolis University, Russia Jan 2026 - present

- Design and deliver graduate-level courses in Applied Statistics & Experiments, MLOps, Big Data, and Operating Systems.
- Create hands-on labs and reproducible assignments to bridge theory and industry practice.

Manager of Data Science and AI program – Innopolis University May 2022 - present

- Managed bachelor's and master's Data Science programs: coordinated curriculum development, program implementation and academic quality assurance.
- Led collaboration between faculty, TAs and administration; supported TA recruitment, training and methodological guidance.
- Coordinated admissions activities, developed program descriptions and selection criteria, and supported preparation for state, public and international accreditation.
- Built relationships with employers and external partners to align projects and internship opportunities with industry needs.

Instructor – Innopolis University, Russia Jan 2023 - Jan 2026

- Designed and delivered labs, tutorials and assignments.
- Assessed student performance via exams, projects and rubrics; iterated course content to align with industry needs and current research.

Teaching Assistant – Innopolis University, Russia Aug 2021 - Dec 2022

Assisted with teaching the courses of Operating Systems and Data Structures & Algorithms.

Teaching Assistant – Latakia University, Syria Mar 2018 - Aug 2019

Assisted with teaching the courses of Java Programming, Machine Learning, and Information Systems Engineering.

ADDITIONAL EXPERIENCE

Data Scientist – Schwarzthal Tech., Russia Jun 2021 - Aug 2021

Built a Transformer-based Arabic-Latin transliteration system in Python. Collected data from wikipedia and Github for the training phase. Deployed the model using BentoML to AWS SageMaker.

COURSES TAUGHT

Big Data Technologies and Analytics

[Link to course materials](#)

This course provides an overview of the state-of-the-art technologies, tools, architectures, and systems for managing and analyzing massive datasets. It provides a practical training in industry-standard technologies, including the Hadoop ecosystem (HDFS, MapReduce, YARN), Apache Spark, Hive, Ozone, and NoSQL databases like MongoDB, Cassandra and Memgraph.

MLOps Engineering

[Link to course materials](#)

This course offers a practical, project-based introduction to MLOps, guiding students through the entire lifecycle of a machine learning project using the CRISP-ML process. The curriculum provides hands-on training with a robust suite of industry-standard tools: MLflow, Apache Airflow, Docker with GitHub Action, Great Expectations, DVC, Feast, and Streamlit.

Applied Statistics and Experiments

The course presents the fundamentals of empirical methods and fundamental statistics to the future software engineers and data scientists. Key areas of study included measurement theory, the Goal-Question-Metric approach, experimental and quasi-experimental design, probability theory, correlation, convolution, and hypothesis testing.

EDUCATION

- 2022 - present **PhD (1.2.2) at Innopolis University** (GPA: 3.80/4.0)
A PhD candidate researching software engineering and machine learning with focus on Causal AI, software defect prediction, software metrics and Graph Neural Networks. Published multiple peer-reviewed papers, developed reproducible experimental pipelines and supervised some research projects.
- 2020 - 2022 **MSc of Data Science and AI at Innopolis University** (GPA: 3.90/4.0)
Graduated with Honors. Worked on a research project funded by the Huawei Research center in Moscow on using software metrics for guiding corrective and preventive actions. Completed an internship on building a transliteration system using Transformer models.
- 2019 - 2020 Preparatory Course at **KNITU-KAI** (GPA: 3.71/4.0)
Completed an intensive **Russian language** course prior to enrollment in a Master's degree- program at Russian-language universities.
- 2016 - 2019 **MSc of Software Engineering at Latakia University** (GPA: -/4.0)
Conducted research in image processing. Thesis title: "Automatic anomalous event detection in video surveillance scenes".
- 2010 - 2015 **Bsc of Software and Information Systems at Latakia University** (GPA: 3.95/4.0)
Graduated with Honors. Solid foundation in programming, machine learning, software engineering, compiler design, and databases. Thesis title: "Automatic anomalous event detection in video surveillance scenes".

PUBLICATIONS

- Bugayenko, Yegor, Kirill Daniakin, Mirko Farina, **Firas Jolha**, Artem Kruglov, Giancarlo Succi, and Witold Pedrycz (2022). "Extracting corrective actions from code repositories". In: *Proceedings of the 19th International Conference on Mining Software Repositories*. MSR '22. Pittsburgh, Pennsylvania: Association for Computing Machinery, pp. 687–688. ISBN: 9781450393034. DOI: [10.1145/3524842.3528517](https://doi.org/10.1145/3524842.3528517). URL: <https://doi.org/10.1145/3524842.3528517>.
- Dlamini, Gcinizwe, **Firas Jolha**, Zamira Kholmatova, and Giancarlo Succi (2022). "Meta-analytical comparison of energy consumed by two sorting algorithms". In: *Information Sciences* 582, pp. 767–777.

Jolha, Firas and Najlaa Jolha (2024). “Predictive Modeling of In-Hospital Mortality in ICU Heart Failure Patients Using Machine Learning Techniques”. In: *2024 7th International Conference on Algorithms, Computing and Artificial Intelligence (ACAI)*, pp. 01–07. DOI: [10.1109/ACAI63924.2024.10899560](https://doi.org/10.1109/ACAI63924.2024.10899560).

Jolha, Firas (2025). “Investigating the Impact of Refactoring Smelly Codes on Internal Quality Attributes: A Meta-Analytical Study”. In: *Proceedings of the 2024 13th International Conference on Networks, Communication and Computing*. ICNCC '24. Association for Computing Machinery, pp. 66–72. ISBN: 9798400717352. DOI: [10.1145/3711650.3711660](https://doi.org/10.1145/3711650.3711660). URL: <https://doi.org/10.1145/3711650.3711660>.

Kholmatova, Zamira, Georgy Andryushchenko, Dinislam Gabitov, **Firas Jolha**, Andrey Palaev, and Ninel Yunusova (2025). “Software Metrics Selection: The Case of Python”. In: *Advances in Information and Communication*. Ed. by Kohei Arai. Cham: Springer Nature Switzerland, pp. 419–438. ISBN: 978-3-031-84460-7. DOI: [10.1007/978-3-031-84460-7_27](https://doi.org/10.1007/978-3-031-84460-7_27). URL: https://doi.org/10.1007/978-3-031-84460-7_27.

Tulkunova, Navruza, **Firas Jolha**, Aleksandra Egorova, Gleb Bugaev, Alyona Maksimova, Dmitriy Okoneshnikov, and Evgeniy Zuev (2026). “Estimating Code Comprehension Time Using Large Language Models: A Time Based Evaluation of Java Code Understanding”. In: *Proceedings of the 2025 9th International Conference on Computer Science and Artificial Intelligence*. CSAI '25. Association for Computing Machinery, pp. 47–52. ISBN: 9798400719622. DOI: [10.1145/3788149.3788237](https://doi.org/10.1145/3788149.3788237). URL: <https://doi.org/10.1145/3788149.3788237>.

RESEARCH INTERESTS

software metrics, Github data analytics, defect prediction, anomaly detection, machine learning, graph neural networks, causal inference.

LANGUAGES

Arabic (native), Turkish (Advanced), English (Advanced), Russian (Intermediate)

REFERENCES

Available upon request.