



KAZAN (VOLGA REGION)
FEDERAL UNIVERSITY



Казанский федеральный
УНИВЕРСИТЕТ
ИНСТИТУТ
Вычислительной математики
и информационных технологий

INSTITUTE OF COMPUTATIONAL
MATHEMATICS AND INFORMATION
TECHNOLOGIES



SHENZHEN UNIVERSITY



COLLEGE OF COMPUTER SCIENCE
& SOFTWARE ENGINEERING

深圳大学计算机与软件学院
College of Computer Science & Software Engineering,
Shenzhen University

“DATA SCIENCE”

JOINT DOUBLE-DEGREE MASTER’S PROGRAM

General Information

Language: English

Duration of Program: 2 years, Full time

Tuition fee: \$ 8,000 per year

Deadlines for registration: till June, 1

Credits: 120 – ECTS

Welcome to the Master's Program

The joint double-degree Master's Program (JD²MP) at Institute of Computational Mathematics and Information Technologies @ Kazan Federal University (Russia) and College of Computer Science & Software Engineering @ Shenzhen University (China) oriented onto training students at international team for mastering skills and knowledge on effective processing heterogeneous, real-world big data that drive business success in today's hyper-competitive, data-driven world.

The JD²MP prepares students for data-related careers in data science, which is an emerging area driving economic growth, public policy and corporate strategy through management of very large collections of data to derive insights that ultimately benefit society. Understanding effective and ethical ways of using vast amounts of data is a significant challenge to science and to society as a whole, and developing scalable techniques for data analysis and decision making requires interdisciplinary research in many areas, including machine learning, algorithms, statistics, operations research, databases, complexity analysis, visualization, and privacy and security. Through a unique combination of interdisciplinary coursework and cutting-edge research, the programs will enable students to apply techniques and tools of data science to applications drawing on appropriate and relevant concepts and models from the engineering, natural or social sciences. Students will undertake a capstone project that will provide hands-on practical experience analyzing data in a project environment. The emphasis is on understanding and working within a corporate environment and integrating all the skills and knowledge that have been acquired from previous courses into a solid base to progress from into students' professional life.

Drawing on the expertise of renowned professors and lecturers from both Universities, we combine mathematical and statistical studies with instruction in advanced information technology and data management.

The curriculum includes research design and applications for data and analysis, storing and retrieving data, exploring and analyzing data using data mining and machine learning methods and tools.

The program assumes realization at the both sites: first year of study at Kazan Federal University and the second year of study at Shenzhen University.

Career Opportunities

The graduates of the JD²MP will be exceptionally well equipped to harness and communicate the full value of data to the employer organizations they serve as

- Data Analyst
- Big Data Manager and Engineer
- Data Miner
- Expert in Machine Learning
- Data Visualizer, etc.

Graduates of the program will be able to:

- Retrieve, organize, combine, clean, and store data from multiple sources;
- Apply appropriate data mining, statistical analysis, and machine learning techniques to detect patterns and make predictions;
- Imagine new and valuable uses for large volume datasets;
- Design visualizations and effectively communicate findings, etc.

Program Details

The syllabus of the JD²MP includes several major courses delivered at each semester and combining both mathematical and IT study.

The core courses are the following:

- Big Data Analysis,
- Statistics and Analysis in R,
- Cloud Computing,
- Big Data Management and Engineering,
- Machine Learning,
- Design and Analysis of Algorithms,
- Statistical Methods for Big Data Analysis,
- Optimization,
- Deep Learning in Data Science,
- Interactive Computer Graphics.

Students who successfully complete the whole program shall be eligible to have conferred both of the following **degrees**:

- Master's Degree in Computer Science awarded by Shenzhen University,
- Master's Degree in Computer Science awarded by Kazan Federal University.

Campuses

Shenzhen University (SZU) was founded as a public university with the accreditation of the State Council of the People's Republic of China, and has undergone rapid growth and expansion in the past three decades just like the city of Shenzhen, China's most successful Special Economic Zone. SZU offers multi-level degrees with its 27 colleges, providing 86 undergraduate programs, over 100 master programs, and 9 doctoral programs. Today, SZU has become a widely recognized multi-discipline university both home and abroad and strives to be a leading innovative university with an international profile.

Kazan Federal University (KFU) is the second oldest university in the Russian Federation. An internationally acknowledged center of academic excellence, it is routinely listed among top 10 institutions of higher education in the country. Famous former staff and alumni include writer Leo Tolstoy, leader of the Russian revolution Vladimir Ulyanov (Lenin) and physicist Evgeny Zavoisky. Today KFU is a dynamic modern University actively participating in local and international cooperation, networking with academia and industry, boosting the region's human resources development as well as top-level research and innovation in different areas.

Admission

Who can apply for the JD²MP:

- With Bachelor's Degree in Computer Science, Engineering, Statistics, Mathematics, Physics or relevant fields from an accredited college or university;
- With Qualified English language proficiency.

The applicants should pass two-step entrance test. The first part of entrance exams includes the writing test on math and computer science. The second part includes the portfolio consideration and subject oriented interview in English.