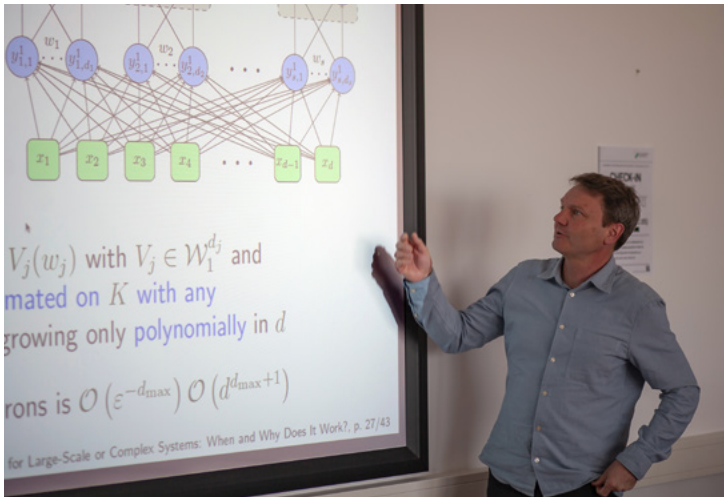
UNIVERSITÄT BAYREUTH

Bachelor of Science
Bachelor of Arts

Data, Science and AI







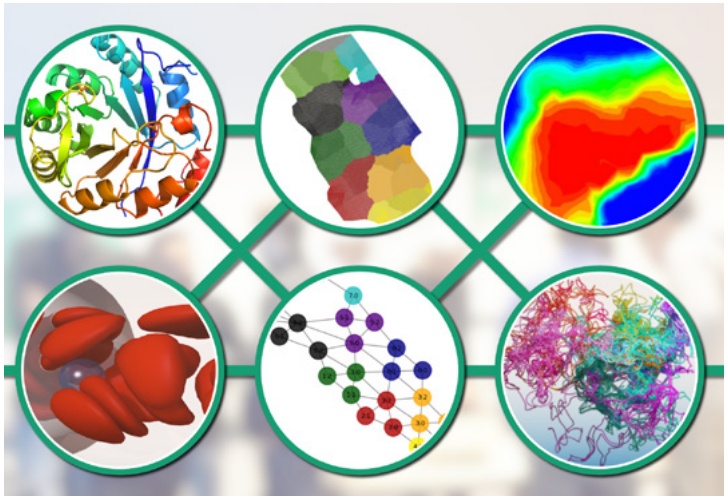
A Revolution in Information Technology

Computational methods, data-driven solutions, and AI are reshaping the world—transforming industries such as healthcare, finance, climate research, and engineering. As these technologies continue to drive global advancements, the demand for professionals with both technical expertise and a strong understanding of their theoretical underpinnings is growing.

The *Data, Science and AI (DSAI)* Bachelor's Program at the University of Bayreuth equips students to meet this demand. Combining mathematics, computer science, and domain-specific knowledge, this interdisciplinary program offers a unique opportunity to study at the intersection of theory and application, preparing graduates to tackle real-world challenges and innovate in today's data-driven world.

What Makes the Program Unique?

- **Wide Range of Specialisations** – Explore fields like mathematics, computer science, natural and life sciences, humanities, and data science--all offered within a single, integrated program.
- **Learn from Experts** – Receive instruction from leading scientists to become a future expert in your field.
- **Flexible, Tailored Learning** – Customise your academic path to align with your personal interests and career ambitions.
- **From Theory to Practice** – Gain real-world experience through project-based learning, preparing you to master complex challenges in science and technology.



Program Structure

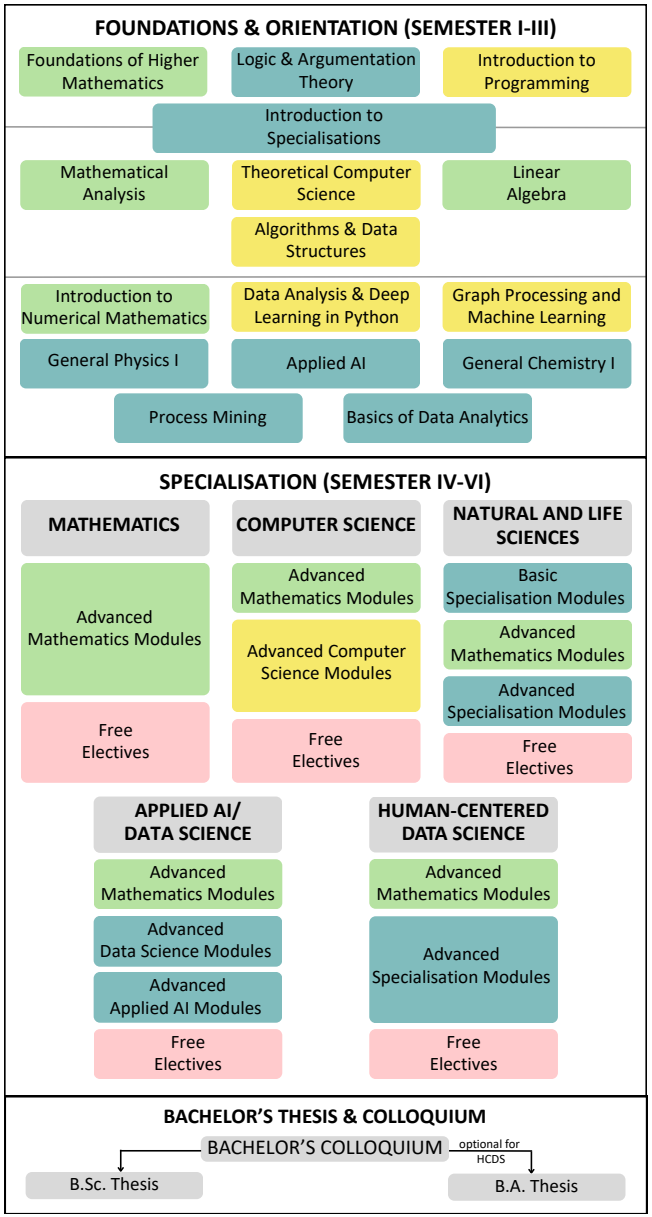
The *DSAI* Bachelor's Program is divided into two phases:

1. Foundations & Orientation Phase (Semesters I–III)
In the first three semesters, all students complete core courses in mathematics and computer science, along with an introduction to the specialisations offered in the second phase.

2. Specialisation Phase (Semesters IV–VI)
In the final phase, students focus on their chosen area of specialisation, receiving in-depth training and advanced coursework taught by experts from the respective domain. Each student is paired with a dedicated mentor who provides personalised guidance to develop the domain-specific skills needed for success in their field. This phase concludes with a bachelor's thesis, in which students conduct independent research in their chosen specialisation.

Specialisations offered:
Mathematics (B.Sc.) / Computer Science (B.Sc.) / Natural and Life Sciences (B.Sc.) / AI and Data Science (B.Sc.) / Human-Centered Data Science (B.Sc. or B.A.)

Study Plan





Career Prospects: Unlocking a World of Opportunities

Graduates of the *DSAI* program are highly skilled professionals, poised to excel in sectors driven by data and technology. With a strong foundation in mathematics, computer science, and AI, they can pursue careers in:

- **Data Science and AI** – Innovate in machine learning, big data, and AI-powered technologies.
- **Industrial Research & Development** – Drive innovation in engineering, life sciences, and medicine.
- **Business & Finance** – Leverage data to optimise decision-making and strategy.
- **Technology & Software Development** – Design intelligent systems and data-intensive applications.
- **Academia & Research** – Contribute to cutting-edge research and push the boundaries of knowledge.

With expertise in simulation, optimisation, and advanced analytics, *DSAI* graduates don't just adapt to change—they drive and direct it, shaping the future of technology, business, and research.



Gamechanger Campus

As a public research university of the State of Bavaria, the University of Bayreuth benefits from strong connections with both regional and national industries, enhancing its academic and research profile. The university takes pride in its reputation for academic and scientific excellence, fostering a supportive environment for students and providing close supervision in both undergraduate and graduate programs. This commitment to quality education is reflected in the consistently high rankings of its mathematics and physics programs in the national CHE rankings.

Designed as a campus university—a rarity among public institutions in Germany—the University of Bayreuth offers an ideal setting for both academic pursuits and extracurricular activities. All essential facilities, including lecture halls, laboratories, libraries, dormitories, cafeterias and sports facilities, are conveniently located within a short walking distance of each other, creating a cohesive and enriching student experience.

UNIVERSITÄT BAYREUTH

Admission Requirements & Application Process

Language Proficiency

English: B2 level (according to the European Framework of Reference for Languages) or equivalent in English proficiency is required. You can submit a language certificate, school certificate, or proof of a degree from an English-taught school program.

German: A beginner's level of German (A1) is required, which can be fulfilled by the end of the second semester.

Additional Requirements

SAT or TestAS (Core Test and 'Mathematics, Computer Science, Natural Sciences' Module Test) certificate with a sufficient score.

How to Apply – Rolling Admissions for Winter Semester Intake Only

Apply online via CAMPUSonline:
https://campusonline.uni-bayreuth.de

Contact:

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Stand: April 2025