

## Data-Driven Design

### **What is this specialisation about?**

Data-Driven Design is an emerging field that focuses on designing with and for data. This includes the use of quantitative and qualitative data about people to inform design, as well as to create designs that present such data to people, for example, in interactive visual representations of data to support data thinking and communication. From a design perspective, data is the unifying concept, focus, and design material of the specialisation. It combines students' digital design identity and real-world data applications by drawing on disciplines such as Information Visualization, Interaction Design, UX Design, and Communication, Information, and Data Science. From a technical point of view, Data-Driven Design uses data analytics and visualization to gain insights from data, programming to create novel and convincing technical solutions that respond to these insights, and methodological knowledge to implement as well as evaluate a particular solution. Borrowing from interaction design, the specialisation considers people and their contexts and uses technology as a tool to imagine and build the right design.

The specialisation enables students to fruitfully incorporate data in digital designs and design processes, while being able to critically reflect on what data means and the role that data play in design processes and their products. Students will be able to contribute to and critically reflect on data production, data analysis, data interaction, and data presentation. These skills enable them to take a lead role in emerging data work for products and systems and contribute to product development strategies from a data perspective.

### **What will you do in the specialisation?**

The specialisation explores what it means to design with data, thus taking a hands-on approach to integrating data in design work. The specialisation combines theoretical approaches from Information Visualization, Human-Computer Interaction, Interaction Design, and Data Science research with design methods, data exploration, data sketching, and technical prototyping in modern web technologies, and other prototyping tools. Methods are used to ideate, develop, and test concepts include design study methodology, digital prototyping at different levels of fidelity, and various evaluation strategies. Throughout the application of these methods, students reflect on what is known about the target audience, how it might be possible to gain information about the target audience, and how trustworthy this information is or might be.

### **How are the two parts of the specialisation organised?**

During the specialisation, students will be exposed to a range of technologies and respond to data and design briefs on projects to create context-appropriate design artefacts. The first part of the specialisation introduces students to data analysis tools and approaches, whereas the second part of the specialisation takes an interdisciplinary studio-based design approach with hands-on, reflective, and practice-based teaching elements, through collaborations with external stakeholders. This offers students practical experience and situated learning from working on concrete data design projects with real-world impact.

**What are job profiles related to the specialisation?**

Students graduating with a specialisation in Data-Driven Design can often serve as bridge builders between data scientists, data engineers, digital designers, operations, or management. Job profiles include user experience designer, data designer, digital designer, data visualization designer, information designer, interaction designer, customer experience designer, data communicator, data journalist, data professional, analytics specialist, visualization specialist, digital media analyst, data consultant, design consultant, user acquisition consultant, digital product manager, social media manager, and researcher in academia and industry (for example, as PhD Candidate).

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