

Thesis: Data Analytics (f/m/div)* Customer Journey.

You are passionate about data analytics and have a desire to make faster and better decisions? At Infineon's Power & Sensor Systems (PSS) division we are looking for a data-savvy team player to leverage data analytics for strategic decision making. Have you already gained first practical experience in tasks such as data extraction, data mining and machine learning and want to get deeper insights into a multinational high-tech company that is a driver of innovation across many industries? Then, a thesis with us is a great opportunity for you! You will have the chance to participate in our PSS division's Center of Competence for Analytics and closely collaborate with and learn from team members. You will gain first-hand experience by contributing to several aspects of a systematic approach to improve market intelligence and trend detection. Are you interested? Then don't hesitate and apply now. We are looking forward to hearing from you.

About PSS at Infineon: Power & Sensor Systems (PSS) drives leading-edge power management, sensing and data transfer capabilities.

Infineon **PSS** semiconductors play a vital role in enabling intelligent power management, smart sensitivity as well as fast and reliable data processing in an increasingly digitalized world. Our leading-edge power devices make chargers, adapters, power tools and lighting systems smarter, smaller, lighter and more energy-efficient. Our trusted sensors increase the context sensitivity of "things" and systems such as HMI, and our RF chips power fast and reliable data communication.

Thesis Topic: The decision process to incorporate a specific component can be lengthy and impactful for our customers. Especially mass-market customers interact with Infineon on multiple levels throughout their individual customer journey. Which data points should be collected and linked to understand relevant interactions with our customers? Can we define and simulate a realistic set of customer types and their customer journeys? What are common methods to analyze the customer journey and how could these apply to Infineon? Could Reinforcement Learning be a useful framework?

During your thesis you will:

- Review and summarize related **literature**
- Directly **communicate** with relevant stakeholders
- Develop a **simulation** model to generate realistic customer journeys
- Use the simulated data to build a model to **optimize the customer journey** and to make individual recommendations.
- Contribute to a **better understanding of relevant marketing activities** and customer interactions to **empower** the business lines and to sustain **better relationships** with our customers

You have excellent analytical skills as well as a clear understanding of how data analytics creates value-add in strategic business decisions. With your creative and solution-oriented mindset, you think outside the box and are always eager to try out new concepts and improve. Your self-driven entrepreneurial spirit makes you comfortable with a high degree of freedom while executing tasks.

You are enthusiastic, have very good interpersonal, communication and presentation skills and work in a structured and methodical manner.

You are best equipped for this task if you:

- **study statistics, data science, mathematics, computer science** or a similar field with **excellent results**.
- Already gained **relevant experience in the implementation of machine learning projects**
- Are familiar with **theoretical concepts of machine learning** and **simulations**, f.e. which problem can be solved with which **type of algorithm** and what their **limitations** are
- Possess good skills in **analytics software/tools** as well as in **programming languages** such as **Python, R, Jupyter Notebook, TensorFlow, Keras**
- Have **good communication skills in English**; for foreign applicants, good knowledge of German is a plus

The university supervisor is [Prof. Markus Pauly](#) (mathematical statistics and industrial applications at TU Dortmund) and the direct supervision is going to be provided by Louis Steinmeister. This opportunity arises through a cooperation between [Infineon](#), the [Graduate School of Logistics](#) of the TU Dortmund and the **thesis will be compensated by Infineon**.

Please email your application entitled “**Thesis Application: Customer Journey – [Your Name]**” to Louis Steinmeister (louis.steinmeister@infineon.com) and include the following documents:

- **CV in English**
- **Certificate of enrollment at university**
- **Latest grades transcript**
- **Transcript of Bachelor studies**