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# Why Shaping the Future of Mobility is a Triathlon

Obtaining a Doctor of Philosophy (PhD) is like running a marathon: It is an endurance event that requires a lot of hard work, motivation and self-discipline.



Jan Feiling at TNW2019 in Amsterdam

And now, here I am, splitting my time into three:

## 1. Better research, better algorithms

I spend one to two days a week at university. My research sets out to assess a novel class of derivative-free optimization algorithms.

These are inspired by natural phenomena like biological processes and evolution and play an increasingly central role in solving real-time decision-making problems that arise in engineering and control problems. As computational power continues to grow, so too will the usefulness of optimization algorithms and machine learning techniques. What I value about my time spent at university is that it allows me (i) to deepen my theoretical knowledge in cybernetics and mathematical optimization, (ii) to indulge in solitary intellectual work, (iii) to work closely with other academics, and (iv) to teach and supervise students.

## 2. Pre-development: Privacy by Design

Pre-development is an integral part in creating and optimizing vehicles, it's a mix of research and development. In Weissach, several teams are working on various new concepts and elements that will be ready for serial production in one to five years. In my work, I am focussing on how we can use the potential of machine learning while guaranteeing highest standards in data security. We are currently developing a new method for machine learning that inverts the traditionally used algorithms, so that the data used never leave the car and its owner, although the learning outcome is shared with the fleet — Privacy by Design.

For those who are interested in this topic: My colleague Tobias Grosse-Puppenthal and I have already written a bit more in depth about innovation at Porsche — you can read the article [here](#).

## 3. Innovation: AI for maximum customer experience

To find innovative solutions for the future of mobility, Porsche counts on cooperation — with partners, suppliers and startups. I am very glad that I am able to spend a third of my time with a true innovation project: Together with two startups, we are working on a new navigation solution that maximizes the Porsche driving experience. The Porsche spirit is not so much about simply getting from A to B, but rather lies in the drive itself. We'll leverage AI to empower our customers to have an even better experience on the road. I know this sounds tempting, but it's still top secret. So, stay tuned!



**Porsche at TNW2019 in Amsterdam**

There is no “regular” working day for me — just like the three projects, every day is different and my tasks are very diversified. I love that about my job. I love that I am able to really dig into theory and research and, at the same time, get to know the business side and learn how to put innovation on the road. I love how this connection between University of Stuttgart and Porsche bridges the gap between theory and practice, between academia and industry. In my opinion, that is the basis for the sustainable future of mobility. I took part in many triathlons, so I know what it takes to reach this goal: a lot of staying power, motivation and discipline.

What is your heart beating for? Have you finished your studies and would like to join us as a doctoral student? We're always looking for new colleagues who'd like to shape the future with us.

## About Jan Feiling

[Jan Feiling](#) is PhD candidate at Porsche AG and the Institute for Systems Theory and Automatic Control at University of Stuttgart. For

more details, get in touch with us on

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