# *Simon Box MEng PhD*

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Engineer with specialization in Simulation and Machine Learning and especially applications that concern both: sim-to-real, synthetic training data, autonomous vehicle simulation.

## *Experience*

### *2017- Senior Director of Simulation and Offline Testing at Aurora*

aurora.tech
Business Insider article
Scaling simulation
Virtual testing
Online to offline

As Senior Director I serve a team of ∼100 engineers, which we grew from just 2 when I joined in 2017. Our team develops tooling that has allowed Aurora to move to a development workflow driven entirely by by simulation. Simulation happens at a large scale at Aurora with more than 5m sims run daily. See the margin links for public blog posts and a media article where Aurora's CEO discusses Simulation.

### *2016-2017 Head of Autopilot Simulation at Tesla*

tesla.com/autopilot

As Autopilot Sim lead I served a team of ∼20 engineers, which we grew from just 2 when I joined in 2016. The team produced a number of simulation tools that helped accelerate development and contributed to the launch of the "Hardware 2.0" version of Autopilot.

### *2008-2016 New frontiers research fellow, University of Southampton*

Some publications:
AI intersection conrol
RL in traffic sim
Gaussian process trajectories
Hidden Markov model state estimation

In this research fellowship and lecturing role I focussed on simulation of traffic control and state estimation using machine learning methods. I also worked to secure over five-and-a-half million (USD equivalent) funding from multiple government grants and industrial collaborations to support this research. Additionally I taught Thermodynamics and Computer programming courses.

### *2005-2007 Machine learning and perception group Microsoft Research*

Rocket simulator
Research paper

At Microsoft I developed a rocket flight simulator for unguided sounding rockets. This included modelling uncertainty in atmospheric data with a bespoke ML model described in the linked paper.

## *Education*

*2006 PhD, University of Cambridge* Focussed on automotive modelling and simulation.

*2002 MEng, Queen Mary, University of London* Mechanical engineering