



BUGABOO

graduation project

MODELING SHIMMY IN BABY STROLLERS

Bugaboo is a Dutch mobility company that was founded in 1999 by designer Max Barenbrug and physician Eduard Zanen, has headquarters in Amsterdam and a network of offices around the world. Bugaboo is known for its innovative strollers, but has a much broader, mobility oriented mission: to excite every person on the move. Our passion for innovation results in products that inspire people to get out and explore the world. Bugaboo employs around 185 people at its headquarters, of which 35 in design and engineering.

Modeling shimmy in baby strollers

Shimmy is a recurring problem in all of our strollers. Mostly by trial and error we are able to keep shimmy under control under normal use, but the lack of a proper underlying theoretical model makes it hard to predict the behavior of new stroller designs, or even to know with which strollers we are near a ‘tipping point’ in dynamic behavior.

We are looking to create a theoretical model of (front) wheel shimmy in our strollers, elaborating on the knowledge that we have already built in cooperation with other universities. In this project you will:

- Create a theoretical model of a stroller, taking the Bugaboo Bee+ as a special case study.
- Build and test a prototype stroller, based on a theoretical solution from the model to validate the model.
- Create a program and/or guidelines that can be used in product development to predict shimmy behavior.

Your profile

We are looking for university master students with a Mechanical Engineering background with interest & experience in modeling multibody dynamics. Creativity, commitment, a proactive attitude and own initiatives are important.

Contact/more info

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