



The Sneature is made from all natural materials, reducing the energy spent on materials and processing | Photo source [Emilie Burfeind](#)

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## SUSTAINABLE SHOES MADE FROM DOG HAIR AND MUSHROOMS

 FASHION & BEAUTY

### A German designer has created a one-piece shoe using just three natural materials, including yarn made from dog hair

**Spotted:** We've seen sustainable shoes made from bioplastics and natural materials, but German designer Emilie Burfeind has gone one step further, with the Sneature ("sneaker" + "future"), which is a sock-shoe knitted from dog hair shed during grooming, and a mushroom sole. Traditional trainers are made from as many as 12 different components, and because of this, they are extremely difficult to disassemble and recycle. The Sneature aims to solve this problem.

The shoe is designed as a seamless sock, in order to reduce the number of components involved. Dog hair, which was crowd-sourced from dog owners, was spun into a high-quality yarn, called Chiengora, by Berlin startup Modus Intarsia, which specialises in creating the dog-yarn. The Chiengora was knitted to create the upper using 3D-knitting technology. This is similar to 3D-printing, but instead of melting plastic filament to create a solid shape, the final design is bonded together using the wefts and warps of the weave.

The 3D-knitting process allows each shoe to be created in one "print" so that there is no waste. The sock-shoe is dipped in natural rubber to create a water-repellent "mudguard". To create the sole, fungi mycelium is mixed with a cellulose-based material and grown in a mould. The entire shoe is biodegradable, but the mycelium composite can also be shredded reused while the fibres of the knitted upper can be separated and spun into new yarn.

Burfeind has said that she was inspired by the desire to create a clothing product that was completely sustainable, [saying](#) that this includes not only the use of sustainable raw materials, "but

also the manufacturing process, which has a major impact on the ecological footprint of the product. The idea was to develop such a comprehensive sustainable design in the field of footwear.”

The footwear industry has contributed its fair share to the mountains of fast fashion lying in landfills across the world, but as with the rest of the world, designers are having to adapt to become more sustainable. At Springwise, we have recently seen designs for [biodegradable trainers](#) that can be composted at home and a [plant-based](#) performance running shoe.

Written By: Lisa Magloff

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### **Takeaway:**

The Sneature was created as part of Burfeind’s diploma in design at the Offenbach University of Art and Design, from which she graduated last year. While she has no plans to manufacture or market the Sneature, the shoe is a good example of the way that innovative design can be used to create sustainable products. With a number of big brands, such as Adidas and Nike, developing trainers that use fewer or natural resources, the time for smaller innovations such as the Sneature may be just around the corner.