



Computational Design Engineer Full Time

TheLab – powered by swissbiomechanics

The Role

You will build the computational systems behind our R&D and product creation workflows, taking ideas from early exploration through to manufacturable products.

You will:

- + Develop computational design and automation systems using Python and/or C#
- + Build parametric and generative workflows with Rhino / Grasshopper, and Rhino Compute
- + Translate biomechanical, anatomical, and scan data into product geometry
- + Develop algorithms for computational geometry and 3D modeling
- + Build APIs, backend services, and automated workflows
- + Connect computational design with simulation, optimization, and additive manufacturing
- + Develop scan-to-product and design-to-production workflows
- + Work directly with manufacturing systems and physical products
- + Turn successful R&D concepts into reliable, production-ready systems

The goal is not simply to automate design. It is to use computation to create products that perform better, fit better, and can be manufactured reliably at scale.

What Makes It Different

Many of the systems you will work on do not exist yet.

You will work on problems at the intersection of biomechanics, software, geometry, manufacturing, and performance:

- + Encoding biomechanical principles into computational design
- + Exploring and optimizing large design spaces
- + Balancing product performance with manufacturability
- + Creating systems that generate individualized products at scale

You are not optimizing an existing workflow. You are defining a new one.

What You Bring

You have strong foundations in software engineering and computational design.

- + Python and/or C#
- + Rhino / Grasshopper, Rhino Compute
- + Parametric and algorithmic design
- + Computational geometry and 3D modeling
- + Geometry and mesh processing, including NURBS, SubD, and voxel-based modeling
- + REST APIs and backend systems
- + Software architecture and Git
- + Digital fabrication and additive manufacturing
- + Manufacturing automation

Bonus

- + Simulation-driven design
- + Generative engineering
- + AI / machine learning

You do not need every skill. We care about how you think, how you build, and how far you can take an idea.

Build what comes next.

At TheLab, we combine biomechanics, computational design, software, and advanced manufacturing to create the next generation of personalized performance footwear.

We are looking for a Computational Design Engineer to turn complex data, engineering principles, and design intent into scalable systems and real physical products.

One product. Thousands of possibilities. One computational system to make it possible.

LOCATION

Einsiedeln, Switzerland

WORKLOAD

100% or by mutual agreement

START DATE

immediately or by arrangement

Ready to build the future of footwear – from data to real performance?

Send your portfolio (focused on computational work & fabrication) to:

Matthias Zäh

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How You Work

You build, test, and iterate. You automate where others work manually.

You are comfortable moving between code, geometry, manufacturing, and physical products, and take ownership from the initial idea through to implementation.

You care about performance, manufacturability, scalability, and real-world impact.

Why TheLab

TheLab is the applied R&D environment of swissbiomechanics, bringing together:

[Biomechanics](#), [Computational Design](#), [Software](#), [Materials](#), [Manufacturing](#), [Product Development](#)

We develop technologies and products for individualized performance footwear, combining biomechanical data, computational methods, and advanced manufacturing.

You will work with real products, real data, and real manufacturing systems, with the freedom to explore new technologies and the responsibility to turn what works into products and systems that scale.

What We Offer

- + Full-time role with high technical ownership
- + Build new computational product systems from the ground up
- + Direct impact on personalized performance footwear
- + Access to advanced 3D printing, manufacturing, and biomechanical infrastructure
- + Access to motion capture and performance testing
- + Collaboration with research institutions, technology partners, and material specialists
- + A small, interdisciplinary team with short paths from idea to implementation
- + Freedom to work across software, geometry, manufacturing, and physical product development

Job Details

Position: Computational Design Engineer

Employment: Full Time

Team: TheLab – powered by swissbiomechanics

Focus: Computational Design · Software Engineering · Biomechanics · Generative Design · Simulation · Digital Manufacturing · Product Development