



Mathigon (Freelance or Permanent)

Front-End Software Engineer

About Mathigon

Mathigon is an online learning platform for mathematics. Our goal is to develop the world's best online maths content, and transform education by making it more interactive, personalised and engaging than ever before. We want everyone to be able to enjoy learning mathematics, and appreciate its beauty and applications.

Mathigon was developed by Philipp Legner, starting just as a spare-time outreach project, but has grown into a platform with more than 400k active users per year, and won some of the biggest EdTech awards around the world.

The primary product is an interactive, online textbook for students aged 11-18. We call it the "Textbook of the Future", but it is so much more than just a book. Rather than watching static videos, rote learning or multiple-choice questions, we want students to be able to explore, discover, be creative, learn problem-solving, and gain a deep understanding of mathematics. The content is uniquely interactive and personalised, and filled with real-life applications, colourful illustrations, and engaging storytelling.

Mathigon has been called "a true mathematical wonderland" by The Guardian, and "a front-runner for a new generation of textbooks" by Common Sense Education. You will be one of the first new people joining the team, with an opportunity to have a significant impact not just on our company, but on mathematics education around the world.

Your Role

We are looking for an excellent front-end developer, to work with content writers and graphics designers to create highly interactive learning experiences for students. In addition to pedagogy and UX, this includes a number of very interesting engineering challenges: from creating equation editors and expression parsers, to interactive 3D solids using WebGL, or configurable simulations with two-way data binding.

Mathigon is primarily web-based, written in TypeScript and runs on NodeJS. We also have mobile apps for iOS and Android that use ReactNative. The code is stored on GitHub, and many of our reusable libraries are open source: have a look at <https://github.com/mathigon>.

As our library of content grows, your focus will shift more towards much larger tasks like integrations with other platforms, a teacher analytics dashboard, more personalisation using machine learning, APIs for third-party developers, or content editors for teachers and contributors.

Mathigon is based in London, but we are building a remote team so you can work from anywhere in the world. You can also work part-time or as a freelancer, but you should be available for at least 16 hours per week.

Requirements

Since our team is so small, we are looking for people who have a wide range of skills, and are excited about learning new ones. These requirements are just a wish list, and we'd love to hear from you even if you don't meet all of them. The ideal candidate

- has an excellent understanding of JavaScript, TypeScript and CSS;
- has several years of experience in developing interactive web-based experiences (e.g. games, simulations, web apps or explorable explanations);
- understand modern web technologies like Canvas, WebGL, web components, SVG, touch/pointer events;
- has worked with GitHub, NodeJS, THREE.JS, React Native and Google App Engine;
- understands the importance of great UX to create delightful, intuitive and meaningful experiences;
- has a strong background in mathematics and computer science, for example a relevant university degree;
- loves mathematics and is excited about sharing this love with others.

Perks

- Competitive salary, stock options and benefits.
- Flexible working hours and remote positions. 25 vacation days per year.
- Visits to conferences and professional development.
- Opportunity to join an early-stage startup, and many new opportunities as it grows.
- A chance to work on something impactful and transform education!

Application Process

If you are interested in any of the roles above, or if you have other ideas how you could contribute to Mathigon, please email careers@mathigon.org with your CV. Tell us what excites you about this role, your favourite parts of mathematics, and links to any relevant projects you've worked on (e.g. videos, blog posts, interactive content, or GitHub repos).

The application process will include one or more video calls over Google Hangouts, as well as a few coding tasks.