BioBuilder
Educational Foundation

CUSTOMER SPOTLIGHT

BioBuilder brings Posit tools to high school bioengineers

SUMMARY:

BioBuilder reimagined its STEM curriculum by using Posit Cloud to deliver high-level synthetic biology education remotely. This shift provided students with industry-standard computational tools for meaningful data analysis and visualization, allowing global collaboration on complex bioengineering problems through a code-first approach.

ABOUT:

BioBuilder is an independent 501c3 nonprofit that brings MIT-level synthetic biology and engineering modules into high school classrooms to inspire the next generation of STEM leaders.

INDUSTRY:

Academic

SIZE:

10-15 employees

TECHNOLOGY USED:

Posit Cloud

posit

The Challenge:

Reimagining Hands-On Science Remotely

Remote education threatened to disconnect students from hands-on biotechnology skills.

- **CONFIGURATION BARRIERS:** Traditional online platforms struggled to provide the hands-on, collaborative experience required for meaningful biotechnology education.
- **REPRODUCIBILITY ISSUES:** Instructors needed a way to share complex data and visualization scripts without the risk of students overwriting source material or facing local installation issues.

The Solution:

Cloud-Based Computational Sprints

BioBuilder adopted Posit Cloud to host three-week synthetic biology sprints using R Markdown to integrate instructional text with live code. This platform enables students to create original visualizations in a secure environment that mirrors professional scientific workflows.

- **CODE-BASED ANALYSIS:** Students learn to overcome the limitations of standard software by using R for data visualization and statistical analysis of their research projects.
- **SEAMLESS COLLABORATION:** Posit Cloud allows students to clone instructor resources and edit their own copies of the code, fostering a "thinking part and doing part" in a digital space.

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