



Call for Applications: Research Software Engineer

Topos Institute is searching for a **Research Software Engineer**. We are a non-profit research institute dedicated to shaping technology for public benefit. We use cutting-edge mathematical research, especially category theory, to develop new computational tools that shape the way information flows through science, technology, and society. Our goal is a world where the systems that surround us benefit us all.

Position Summary:

- Topos Institute seeks to hire a Research Software Engineer to work on software for compositional data integration and scientific modeling in the Julia and/or Scala programming languages. A strong background in programming is required. Knowledge of category theory and prior experience with Julia or Scala are preferred but not required.

Topos is committed to building a team with diverse perspectives and life experiences, so those with personal or professional backgrounds underrepresented at Topos are highly encouraged to apply. We are dedicated to shaping the future of technology to ensure a more equitable and just world, and we believe that a technology that supports a healthy society can only be built by an organization that supports its team members. As such, Topos is committed to ensuring that its team members thrive in their work and home lives.

Position Details:

- Job Title: Research Software Engineer
- Start Date: February 2023 onwards
- Position Type: Full-time
- Position Duration: Regular/permanent
- Job Location: Berkeley, CA (Required)
- Salary Range: \$80,000-\$99,000
- Funding: Federal DOD and industry research grants
- Level: Entry-level individual contributor

Position Responsibilities

- The Research Software Engineer (RSE) is responsible for conducting research and developing software in line with Topos Institute's scientific strategy and mission. In collaboration with Topos research scientists, the RSE will produce research software and tools, academic papers and reports, and educational materials.
- The RSE will contribute to developing Catlab and other packages in the AlgebraicJulia ecosystem, as well as relevant mathematical techniques in applied category theory, programming language theory, and logic. This interdisciplinary role emphasizes the translation of abstract mathematical ideas into working software systems that deliver novel capabilities to scientists and engineers. The RSE will develop new mathematics, algorithms, and software to support existing projects in the areas of scientific modeling, planning and reasoning, and data integration and management. Other projects may also be considered, depending on the availability of funding and the RSE's specific expertise.

Position Qualifications

- **Required:**
 - Research experience in mathematics, computer science, or related field, including category theory
 - Basic programming skills and ability to work with code; software engineering skills a plus
 - Proficient verbal and written communication skills necessary to interact in a clear and concise manner
 - Initiative and interpersonal communication skills necessary to work effectively in a dynamic team environment
 - Ability to contextualize work in wider cultural, social, and ethical context, and consider possible positive and negative impacts of their work
- **Desired:**
 - Knowledge and expertise in mathematics, computational science, and software development
 - Experience in performing collaborative and interdisciplinary research
 - Excellent verbal and written communication skills
 - Experience and a demonstrated understanding of working in partnership with team peers, who engage, advocate, and contribute to building an inclusive culture, and provide expertise to solve challenging problems

About Topos

Topos offers competitive salary and benefits including medical, dental, and life insurance, 401k, paid sick leave, 18 days paid vacation annually, at least 12 paid company holidays annually, and options for flexible working hours. Location in Berkeley is required, but some work from home is possible.

Topos is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or status as a protected veteran.

If you have questions about this position, please contact our Operations Assistant Juliet Szatko at juliet@topos.institute. Applications will be reviewed on a rolling basis. All offers of employment are contingent upon completion of a background check.

Unfortunately, Topos is not able to sponsor visas for applicants without United States citizenship.

Further information about Topos Institute can be found on our website: <https://topos.institute>. Check out our [Blog](#), [Youtube](#), and [Research](#).

To apply, please send an application comprising a cover letter and CV/resume to juliet@topos.institute.

Your cover letter might describe your interest in Topos Institute and this software engineer position, your professional experience, your future goals, your specific experience with category theory and your potential contribution to a diverse and inclusive environment at Topos. Please feel free also to convey any information about preferred names and pronouns.