Formal Verification Engineer

Formal Methods and Programming Languages

Highlights

- Fully Remote (Global)
- $120k - $200k + ≥ 0.25%
- Reports to FM Team
- Unlimited Time Off
- Paid Vacation Expenses
- $4k Device Allowance
- Medical/Dental/Vision
- Gym Allowance
- Learning Allowance

About Us

At ***Formal***, we're rethinking serverless *from scratch*: we're building a new computing stack for instant, globally available, truly elastic, soundly isolated execution. We want anyone to be able to easily deploy their software on our machines and have it instantly react to inbound requests with bare-metal performance. We leverage formal methods and languages to build OS interfaces with low overhead, formally verified isolation without containers or VMs. Our stack is simultaneously more secure and performant than anything else out there. Our immediate goal is to build the world's first serverless networking infrastructure.

We believe in moving deliberately, with care, and breaking nothing. Incredible developer experiences govern how we think about the software we write.

Our Tech Stack

We write in Rust and Rocq, use `git`, prefer CLIs to GUIs and love OSS.

Equal Opportunities

Formal is an equal opportunity workplace. We understand, accept, and value differences amongst people and their backgrounds. We provide everyone fair opportunities to attain their full potential and actively promote a sense of belonging and wellness.

Expectations

You'll contribute to formal verification efforts for a new low-level programming language. Expect to architect, write, and review formal specifications and complex mechanized proofs in Rocq. You will work closely with engineering teams to extract correct-by-construction software from mechanized proofs.

Responsibilities

- Lead the design, development, and maintenance of mechanized theorems and proofs in Rocq.
- Collaborate closely with the compiler and OS teams to understand design goals, define formal specifications, and integrate verification into the development lifecycle.
- Participate in both sides of code reviews.
- Actively anticipate and communicate future roadblocks.

Qualifications

- Advanced degree in formal methods or programming languages or equivalent practical experience.
- Deep expertise and extensive practical experience with Rocq and its ecosystem (tactics, libraries, automation).
- Experience leading or contributing to complex formal verification projects such as compilers or OS kernels.
- Ability to formally articulate, reason about, and verify low-level security, safety, and correctness properties of programming languages like Rust and C/C++.
- Ability to read, write, and understand formal programming language specifications and implementations.
- Ability and willingness to document, teach, and explain complex technical problems and solutions.
- High level of independence and autonomy.

Compensation & Benefits

Compensation is comprised of a competitive market salary and stock grant conditioned on a vesting schedule. Benefits include unlimited paid and unpaid vacation time, reimbursable vacation expenses (transportation and lodging up to $1k), a triennial $4k computing device allowance, comprehensive medical, dental, and vision insurance, a $120 monthly gym allowance, and $250 yearly to spend on anything educational.