

Cisco Silicon One™ (NPU) Compiler engineer

SYRMIA Networks is seeking for an experienced and motivated Software R&D engineer to join the field of Network Technology within our R&D department and work within the same team with CISCO R&D engineers on **developing Software tools for an entirely new CISCO Network IC architecture. We are developing a full compiler stack targeting Cisco Silicon One™ architecture which is introducing its own set of engineering challenges.**

Our R&D team with the partner (CISCO) are closely working on the new generation of silicon which will be part of all families of CISCO devices that will drive the future of the internet.

You will have a chance to work together with the CISCO R&D team in shaping the future of internet with these new platforms. SYRMIA Networks shares this vision and can be proud that it has a significant part in helping CISCO to make this internet evolution happen.

Why you should join us:

- The result of your work will be integrated into products of world leading companies, and it will change future of internet
- Opportunity to work with worldwide distributed CISCO R&D centers, and learn from the best engineers in the field
- We will enable you and motivate you to grow professionally and academically in cutting-edge technologies
- You will be surrounded with great engineers and even better people
- You will be working in a modern and pleasant environment and have a diverse benefits package (remote work, flexible working hours, parking, private health insurance, fit pass card etc.)

What we are expecting form candidates:

- Want to dive in and not afraid to make important decisions.
- Has a cheerful, positive attitude with good communication skills.
- Are a brilliant software/electrical engineer, regardless of previous experience.
- Can quickly ramp on interdisciplinary domains.
- Love tackling complex problems.
- Close interaction and cooperation internally and with the CISCO team in many different domains.

We need people who are in love with technology and engineering to help us push the limits of what is possible through innovation, determination, and teamwork.

What You'll Be Doing:

- Design, implement and test state of the art optimizing CISCO Silicon One™ compiler.
- Closely follow industry and academic developments in the Network Processing Unit (NPU) compiler domain.
- Code performance evaluation and debug. Implement and/or enhance code generation.
- Create, optimize, and enhance the compiler backend to leverage the full hardware potential, efficiently optimizing them using novel approaches.

- Solving complex resource management problems, choosing the optimal resource allocation across the HW pipeline.
- Designing and implementing new P4 language features which are making network application developers lives easier.
- Design and build the compiler toolchain for custom networking applications.
- Contribute to the development of various libraries and analysis tools.
- Integrate open-source and 3rd party vendor compiler technology into CISCO compiler.
- Efficiently communicate and collaborate with cross-functional hardware and software engineering teams. Working with the CISCO ASIC engineers who are developing new generation IC's, provide compiler support before the tape-out which will give you the chance to propose HW modifications, participate in HW design, and improve products.

What are we looking for?

- BS or higher in Computer Science or equivalent experience (finished or ongoing BSc / MSc studies)
- At least 3 years of experience developing and maintaining large-scale software projects.
- Strong software design/engineering skills in modern C++, excellent debugging skills, good problem-solving, and analytical skills.
- Positive energy, motivation to learn and ability to work as part of a team.
- High level of work autonomy and sense of responsibility.
- Desire for improvement of current skillset in a fast-paced working environment.
- Fluency in spoken and written English.

What would stand out but not required:

- Experience working on compiler infrastructures such as LLVM and MLIR
- Experience with compiler optimization (theoretical or practical)
- Experience with other programming languages and tools such as Python, ANTLR and SWIG
- Experience with hardware/software codesign
- Understanding of performance analysis

“This is a unique opportunity to be part of a leading team developing next gen product which will soon handle all internet packets. A few years from now all internet packets worldwide will go through the device we develop!

Cisco Silicon One™ is a revolutionary, ground-breaking technology for our customers and end users for decades to come! The Internet now has a new faster, better, safer engine! “

<https://www.forbes.com/sites/patrickmoorhead/2021/03/29/cisco-maintains-cisco-silicon-one-momentum-with-new-devices/?sh=1a5cc7571dba>

<https://newsroom.cisco.com/press-release-content?type=webcontent&articleId=2218514>

<https://blogs.cisco.com/sp/cisco-silicon-one-powers-the-next-generation-enterprise-switches>

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