

Senior FPGA Software Engineer (EDA)

Type of Position: Full time

Achronix is a privately-held fabless semiconductor company based in Santa Clara, California, that offers high-performance FPGA solutions. Our history is one of pushing boundaries, creating new markets, and offering innovative solutions to our customer's most challenging problems. Our target industries include 5G wireless infrastructure, network switching, as well as edge device and datacenter compute acceleration. Our product offerings include embedded FPGA fabrics IPs, high-performance and high-density packaged FPGAs with hardened system-level interfaces, data center and HPC hardware accelerator boards, and best-in-class EDA software. The Achronix CAD Environment (ACE) is the software tool used by our customers to synthesize, map, place-and-route, and program our FPGAs. Achronix Software Engineers research and develop novel and computationally hard software algorithms to enable our programmable hardware. ACE is the window to our FPGA technology.

Job Description/Responsibilities

You will research, invent, and implement robust software solutions for placement, routing and timing optimization of large standalone (Speedster) and embedded (Speedcore) FPGAs, while leveraging unique features of the Achronix FPGA technology. You will utilize your knowledge of Electronic Design Automation (EDA) algorithms and data structures, in the context of a high-performance timing-driven FPGA placement and routing application, to make significant contributions to the ACE software tool chain. You will have a unique opportunity to collaborate directly with other Achronix Research and Development (R&D) Software team members working on synthesis, detailed routing, global routing, detailed placement, global placement, timing optimization, runtime analysis, runtime and memory optimizations. You will contribute to a culture of agile innovation and continuous quality improvement.

Required Skills

- At least four (4) years of university and/or industrial software development experience in R&D of EDA software.
- Excellent programming and debugging skills, and expertise in the C++ programming language.
- Deep and broad understanding of software data structures and algorithms, specifically VLSI circuit placement, routing, and optimization.
- Strong analytical skills to understand cause and effect in large software code base.
- Ability and willingness to try novel approaches to solve difficult software engineering problems.

Preferred Skills

- Familiarity with the Linux and Microsoft Windows operating systems, compilers, and IDEs.
- Familiarity with the Verilog and/or VHDL hardware description languages (HDLs).
- Prior experience with FPGA technologies is a plus.
- Familiarity with software multi-threading techniques.
- Good understanding of digital circuits.
- Knowledge of scripting languages, especially Tcl and Python.
- Experience with the use one or more commercial or academic EDA tools.

Experience and Education

- BS or MS in Engineering (Computer Science, Electrical/Computer, or other related/applied engineering) from a top research university with some prior years of industrial experience in EDA software development using C++.
- Ph.D. with original dissertation in EDA software R&D from a top research university