

Redwood EDA Summer Mentorship Program Overview and Syllabus

Overview

The Redwood EDA Summer Mentorship Program offers an immersive, project-based learning experience that only Redwood EDA can offer. Participants gain pre-market experience with emerging technologies from Redwood EDA, as well as numerous open-source technologies that are changing the landscape of the semiconductor industry. Participants are paired with a direct supervisor and may work directly with other innovators and leaders in these technologies.

This is a minimum 10-week program running over the summer months with some flexibility to work around your college calendar. It is designed to augment a university curriculum and prepare students for the semiconductor workforce. Students must commit to a minimum average of six to seven hours per day (Mon-Fri) and at most five days of vacation, which should be coordinated at least two weeks in advance.

Objectives

- Develop advanced skills in TL-Verilog, circuit design, software development, and hardware and software debugging techniques that are directly relevant to an EE/ECE/CE degree.
- Gain practical experience in project implementation, documentation, and iterative development.
- Enhance career readiness in the semiconductor industry through mentorship and real-world project work.

Program Structure

The program is divided into two phases:

- **Phase 1: General Training**
Focus on building foundational skills through training videos, hands-on exercises, and assignments.
- **Phase 2: Guided Projects**
Apply your training to a personal project, supported by mentorship, progress reviews, and iterative feedback.

Program Syllabus

Phase 1: General Training

- Week 1 & 2: Program introduction. Learning TL-Verilog and RISC-V by building a RISC-V CPU in TL-Verilog.
- Week 3: AI-assisted circuit design. Using the Visual Debug feature of the Makerchip IDE.
- Week 4: Macro preprocessing using M5.
- Week 5: Advanced topics in TL-Verilog: Hierarchy, Transactions, SystemVerilog integration.

Phase 2: Guided Projects

- Week 6: Defining your project and outlining the tasks involved.
- **Week 7: Implementing essential aspects of your project.**
(Note that your project is essentially a one-week project.)
- Week 8: Documenting your work. Deploying. Reviewing.
- Week 9 & 10: Incorporating feedback. Implementing non-essential aspects of your project.

[depending on schedule]

- Week 11: Documenting. Deploying. Reviewing.
- Week 12: Incorporating feedback. Fixing. Testing. Debugging.
- Week 13: Preparing and reviewing a blog post about your experience. Completing evaluations. Wrapping up all project tasks.

Supervision & Evaluation

- **Mentorship:** Regular one-on-one sessions with experienced mentors and industry experts.
- **Feedback:** Continuous feedback to ensure alignment with both academic and industry standards.
- **Certification:** Participants receive certification upon successful completion.

Administrative Details

- **Customization:** Program details may be tailored to suit individual career goals, with decisions made by program administrators. The timeline may be adjusted based on the participant's availability. Any program adjustments will be approved by both the student and the program administrator.
- **Truancy and Performance Requirements:** Students who fail to meet the participation requirements or are, for any reason, unable to remain on track may be ejected from the program without a refund.
- **Program Fees:** Program fees go toward the administration of the program. The program is designed as a training experience that supplements academic learning and does not replace a traditional paid position.
- **Workplace and Equipment:** This is a remote program. The student must provide their own computing and video call equipment and broadband internet access, with specifications that meet the needs of the program.

- **Contact:** For any queries, please contact Steve Hoover (steve.hoover@redwoodeda.com, 774-773-8333).

Disclaimer: This document is provided for informational purposes only and does not constitute a binding agreement or guarantee of program content, structure, schedule, staffing, fees, participation, outcomes, certification, or availability. Redwood EDA reserves the right to modify, postpone, reschedule, or cancel any aspect of the program at any time, including curriculum, mentors, projects, timelines, policies, and administrative requirements. Program details may vary by participant and may evolve as technologies, resources, and program objectives develop.