Veera Sivarajan

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Education

University of Massachusetts Amherst Amherst, MA
B.S. Computer Science **May 2024**

- Relevant Courses: Compilers, Functional Programming, Operating Systems, Digital Forensics, Networking, Algorithms, Statistics, Artificial Intelligence, Distributed Systems
- Activities: Table Tennis Club, Running Club

Experience

Center for Youth Engagement **May 2021 – May 2023**
IOS Developer *Amherst, MA*

- Developed interactive books using SwiftUI to help students visualize the concepts easily.
- Designed and implemented a fail-safe technique to recover from application caching issues.
- Improved UI by implementing popular IOS design patterns.

Recurse Center **May 2022 – Aug. 2022**
Participated in a self-directed educational retreat for programmers *Brooklyn, NY*

- Deepened knowledge in programming language design and compiler implementation.
- Pair programmed to create a Emacs major mode for SerenityOS' Jakt programming language.
- Gave presentations about bytecode compiler and virtual machine implementation techniques.

Projects

Rust Compiler | Minor contributions to fix bugs and improve documentation

- Resolved issues related to Internal Compiler Errors.
- Merged multiple pull requests related to improving error messages and documentation.
- Collaborated with team members and reviewers to ensure the quality and correctness of code changes.

Boa | Contributed to an open-source JavaScript engine in *Rust*

- Fixed bugs to improve compliance with ECMAScript specification.
- Added tests to test262 repository to check for malformed expressions.
- Learned about compiler design and compiler testing techniques.

Boba | Compiles a *Rust*-like language to x86 assembly

- Designed the syntax and semantics of the language based on Rust and C.
- Implemented a lexer, a recursive descent LL(1) parser, a type inference and code generation mechanism.
- Optimized code by implementing constant propagation and constant evaluation on an IR in static single assignment form.

Skills & Interests

Languages: Rust, C++, C, x86, Python, JavaScript, TypeScript
Technologies: LLVM, MLIR, GDB, WebAssembly, Git, Bash, Linux
Interests: Developer Tools, Systems Software, Compiler Development, Technical Writing

Activities

PLISS | Programming Language Implementation Summer School **Oct. 2022**

- Attended lectures on programming language design, implementation and testing techniques.
- Learned about static type checking for dynamic languages, proving compiler correctness and code optimization techniques.
- Interacted with researchers and explored the state of the art in programming language research.

PLDI | Volunteer for a Conference on Programming Language Design and Implementation **May 2022**

- Moderated panel discussion for workshops.
- Provided technical assistance for virtual attendees.