Vipul Cariappa

Student

I am interested in building developer tools, with experience in creating programming languages, interoperability libraries, Jupyter Kernels, and other tools. I have contributed to multiple open source projects in these domains.

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EDUCATION

B. Tech in Computer Science and Engineering

Ramaiah University of Applied Sciences

11/2021 - 08/2025 *Bangalore, Karnataka, India*

WORK EXPERIENCE

Internship

Compiler Research

08/2024 - 12/2024 *Remote*

The Compiler Research organization is part of the Princeton University

- Adopting CppInterOp in cppyy, and extending CppInterOp in the process
- Maintenance of CppInterOp and cppyy
- *Cppyy is a Python library used for interoperability with C++. CppInterOp is an incremental compiler and runtime C++ reflection library.*
- *Link:* https://compiler-research.org/team/VipulCariappa
- *Technology Used:* ***libclang, LLVM*** *&* ***Python C API***

Internship

Google Summer of Code (GSoC) with Python Software Foundation

05/2024 - 09/2024 *Remote*

LPython Sub-Org. LPython is a statically typed compiled programming language with syntax inspired by Python.

- Implemented Read-Evaluate-Print-Loop (REPL shell)
- Implemented Jupyter Kernel
- Worked on Interoperability between CPython and LPython
- *Link:* https://summerofcode.withgoogle.com/programs/2024/projects/4zWsi3Aq
- *Technology Used:* ***LLVM, GNU Bison, Jupyter Kernel*** *&* ***Python C API***

Internship

Google Summer of Code (GSoC) with GNU Octave

05/2023 - 09/2023 *Remote*

GNU Octave is a programming language for scientific computing with syntax largely compatible with MATLAB.

- Worked on octave-pythonic package.
- Updated octave-python to support newer version of Python
- Implemented missing features like operator overloading
- Fixed Windows related issues.
- *octave-pythonic is an interoperability library between Octave and Python*
- *Link:* https://summerofcode.withgoogle.com/programs/2023/projects/aeEAbtyR
- *Technology Used:* ***GNU Octave*** *&* ***Python C API***

SKILLS

Python | C/C++ | Rust | HTML/CSS/JS | Linux | Cloud Computing | OCaml | Compilers

SELECT PERSONAL PROJECTS

logic

- Logic is a predicate logic simulator
- Create automated proofs for predicate logic
- *GitHub:* https://github.com/Vipul-Cariappa/logic
- *Technology Used:* ***Python***

KariLang

- A toy programming language inspired by OCaml
- Can be used as a compiler and as an interpreter
- Comes with Jupyter Kernel to be used in Jupyter Notebooks
- *GitHub:* https://github.com/Vipul-Cariappa/KariLang
- *Technology Used:* ***LLVM, GNU Bison*** *&* ***Jupyter Kernel***

PyC

- PyC is a general-purpose binding between Python and C
- Enables the use of C libraries in Python without any modification to the source code or recompilation
- *GitHub:* https://github.com/Vipul-Cariappa/PyC
- *Technology Used:* ***libclang*** *&* ***Python C API***

py-lua

- py-lua is a general-purpose binding between Python and Lua
- Enables seamless interoperability between Python and Lua
- *GitHub:* https://github.com/Vipul-Cariappa/py-lua
- *Technology Used:* ***Python C API*** *&* ***Lua C API***

coder

- Competitive Programming web application
- Users can also post challenge questions
- Ability to like, comment, and discuss
- *GitHub:* https://github.com/Vipul-Cariappa/coder
- *Website:* https://codeturing.in/
- *Technology Used:* ***Python*** *&* ***Django***

CERTIFICATES

Cloud Digital Leader By Google Cloud