Dhruv Chawla

Compiler Engineer

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A capable programmer learning compiler design and the LLVM compiler infrastructure. Experienced with interpreters, and familiar with systems and assembly programming. 4 years of C++ experience.

Languages

- English - Fluent
- Hindi - Intermediate

Skills

- C++
- C
- Python
- Rust
- Compilers
- Interpreters
- Linux
- Git
- LLVM

Experience

- **Google Summer of Code Contributor (The ENIGMA Team)**

  June 13, 2022 - September 12, 2022

  Project name: Data Buffers / Serialization

  - Worked on rewriting most of the frontend of the ENIGMA Development Language compiler, a scripting language based on GML
  - Rewrote most of the Binary Buffer system which deals with storing and reading data from byte streams
  - Made a serialization and deserialization system which uses template metaprogramming for static polymorphism
  - `https://summerofcode.withgoogle.com/programs/2022/projects/BrXiUNA2`

- **VIT Linux Users' Group - Core Member**

  December 2020 - January 2022

  - Initiated discussions with the rest of the club
  - Conducted the event "GIT IT RIGHT" , an introduction to the git version control system
  - Worked on Arcadia Linux, an in-house Linux distribution

- **VIT Linux Users' Group - Board Member, Vice Chairman**

  January 2022 - Present

  - Helped set up and coordinate the recruitment forum for the freshers' recruitment process
  - Conducted interviews of new recruits
  - Conducted the "Quality Control in Open Source Projects" event for VIT Vellore's Quality Week

Education

- **B.Tech in Information Technology** *VIT, Vellore* | 2020 - 2024
  Current CGPA: 9.28
- **XIIth Grade (Senior Secondary), CBSE** *Navy Children School, Mumbai* | 2020
  Percentage: 96.4%
- **Xth Grade (Secondary), CBSE** *Navy Children School, Mumbai* | 2018
  Percentage: 93.6%

Projects

- **nyx** `https://github.com/dc03/nyx` | *September 2020*
  - A simple, interpreted language implemented in C++
  - Features classes with constructors and destructors, lists, tuples
  - Static type system
  - Copy, reference and move semantics
  - Bytecode virtual machine
  - Code formatter, bytecode dumper, VM execution tracing
- **rispy** `https://github.com/dc03/rispy` | *February 2022*
  - Interpreter for a lispy-inspired lisp
  - Implemented in Rust
  - Tree-walk interpreter
  - Testing for lexical analyzer and parser
- **tictactoe-arduino** `https://github.com/dc03/tictactoe-arduino` | *February 2023*
  - Tic-tac-toe implemented on an Arduino Uno
  - Multiplexing of outputs (LEDs) and inputs (buttons) to reduce pin usage
  - Compact layout of game state to reduce memory usage
  - Part of a university course project

Certifications

- **Introduction to Haskell Programming (NPTEL)** *Issued Sep 2022*
  Percentage: 85% Credential ID NPTEL22CS69S2318078809012045
- **Compiler Design (NPTEL)** *Issued Apr 2022*
  Percentage: 90% Credential ID NPTEL22CS14S2446142802071248
- **Design and Analysis of Algorithms (NPTEL)** *Issued Oct 2021*
  Percentage: 85% Credential ID NPTEL21CS68S4332059403122958