Niranjan Vasudevan

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Education

University of Western Australia – MSc in Information Technology — Feb 2024 – Dec 2025
Anna University – B.Eng. in Computer Science — Nov 2020 – Jul 2023
PSG Polytechnic College – Diploma in Information Technology — Jul 2017 – Sep 2020

Experience

Python and C++ Instructor, *Freelance* – India — Feb 2024 – Present

- **Undergraduate Tutoring:** Provided comprehensive tutoring for undergraduate computer science subjects, covering topics like data structures, algorithms, object-oriented programming, and operating systems
- **Tutoring School Students:** Taught programming fundamentals using Python and C++ to passionate students who are new to computer science. focusing on logic building and problem-solving with hands-on coding exercises

Software Development Intern, Intel – Bengaluru, India — Jan 2023 – Jun 2023

- **Software Engineering:** Developed high-performance, **scalable** C++ applications, optimizing **memory management**, debugging and concurrency control to support Intel Core i7 13700K (Raptor Lake)
- **Performance Optimization and Profiling:** Achieved a 13x speed by transitioning from Python to C++ and a 4x boost through multi-threading, utilizing profiling tools to fine-tune efficiency
- **Agile Web Development:** Developed modules for a MERN-stack based application contributing to **full-stack development** with a team of professionals using **JIRA** for sprint planning, fast tracking and project management

Projects

Mini-Lang Transpiler — github.com/niranjan-v2/mini-lang-transpiler

- Designed a C11 based source-to-source compiler and run-time environment for a mini-language(ml) which has an OCaml-like syntax
- Takes a program written with a .ml extension, transpiles it into C11, validates syntax and compiles it using standard C toolchains for execution
- Supports print, functions, arguments, return and variables

Budgetly – Budget Tracking Application — github.com/niranjan-v2/budgetly

- Developed a full-stack web application to help users track, visualize, and manage their daily expenses efficiently.
- Designed interactive dashboards displaying trend graphs, category-wise spending percentages, and top 5 expenses.
- Enabled export of visual reports (PDF/PNG) and secure sharing of expense data across users within a custom time range.

Infrastructure Management System for District Court

- Developed a web-based Infrastructure Management System (IMS) to maintain the account and infrastructure details of the District Court of Tirupur in India.
- The main objective of this project is to digitise all account management related operations and registers to maintain records in the court. This includes managing, generating reports and tracking of properties in the court

Skills

Languages: C, C++, Java, Python, C#
Libraries and Frameworks: Node.JS, React, Flask