

Hansel D'Cruz

 hanseldcruz@protonmail.com

 Leeds, UK

 linkedin.com/in/hansel-dcruz

 +447842986139

 github.com/Cruizzzer

Work Experience

07/2025 – 10/2025 **Software Engineer**

Leeds, United Kingdom *Trimble Inc.*

- Engineered a PowerShell build and test script suite to automate assembly discovery, image construction, and application builds.
- Dockerized a legacy C++/C# engineering calculator application using multi-stage builds.
- Configured and troubleshooted DLL dependencies for 32-bit and 64-bit builds using tools like Dependency Walker.
- Performed unit testing with MSTest and utilized advanced Git workflows, including branching, merging, and rebasing, to ensure code quality and streamline collaboration.
- Integrated the application with an MCP server for bidirectional communication between AI agents and local tools using a Docker setup.
- Operated in an Agile environment with weekly sprints, planning, and demos.

07/2024 – 07/2025 **Software Engineer (Work Placement)**

Cambridge, United Kingdom *SIEMENS - Digital Industries Software*

- Refactored/optimized existing Python pre-commit hook scripts for version control system, achieving up to a 33% improvement in execution speed for certain tests and improving development workflow.
- Streamlined distributed testing environment by containerizing systems with Docker, integrating legacy Perl workflows, and automating overnight tests with cron jobs to improve the testing harness.
- Tested and validated CPU security features on latest ARM-based Android devices using custom assembly code, ensuring compliance with Android 15 AArch64 security standards.
- Built a Django application to combine and manage data from the testing suite and bug tracking system, using PostgreSQL and an IIS reverse proxy.
- Conducted a feasibility study on load balancing and caching mechanisms with Apache and NGINX, proposing optimizations that replaced outdated PHP-based web-servers.
- Developed prototypes for bug reporting and visualization in Java.

2019 June – September **IT Support (Summer Intern)**

Dubai, UAE *AL AWAN Computer Consultancy*

Fashion Forward - Dubai Design District

- Set up network infrastructure and facilitated Wi-Fi connectivity for an event accommodating up to 500 users throughout the duration of the event.

Education

2022 – present

BSc Computer Science (w/ Year in Industry)

University of Leeds

On track for First Class Honours; modules completed include Numerical Computation, Operating Systems, Networks, and Compiler Design, with upcoming modules in Robotics, Parallel Programming, and Distributed Systems.

2020 – 2022
Leeds, UK

Notre Dame Catholic Sixth Form College
A-Levels: Further Mathematics, Mathematics, Computer Science, Physics

2019 – 2020
Dubai, UAE

Winchester School
GCSE: Mathematics, English, Physics, Chemistry, Computing, Accounting, Business Studies

Skills

Computer Languages

C, C++, C#, Java, JavaScript, TypeScript (w/ NextJS, React/Redux), Perl, Bash, HTML/CSS, Bootstrap and Tailwind

Databases

MongoDB: Experience with schema design, data modeling, and CRUD operations using MQL.

SQLite: Skilled in CRUD, joins, views, subqueries, normalization, and basic database security.

Prisma ORM: Hands-on with schema design, relationships, data validation, and migrations.

Tools and Platforms

REST API, Agile/Scrum, CI/CD, Git/GitHub/Bitbucket, Jira, VSCode, Visual Studio, Linux, Docker

Website Development

Next.js: Built websites with TypeScript, MongoDB, Tailwind, and Next App Router; implemented routing, data fetching, Google OAuth authentication, SSR/SSG for performance and SEO.

Flask & Django: Developed web applications used in university projects and professional work.

Personal Projects and Courses

Foreign Language Dictionary

- Developed a user-friendly dictionary and web app for the Konkani language using React, Redux for state management, and MongoDB, along with Redis for cache validation.
- Implemented secure back-end authentication, authorization, and routing to protect user data and enhance the application's security.
- Demonstrated skills in database management and project deployment using Git.

Pathfinding Algorithm Simulator

- Designed and built a maze-generation visualization web application for A-Level project.
- Utilized A*, Dijkstra's, and DFS algorithms to develop dynamic, real-time traversals incorporated with custom CSS animations.
- Demonstrated skills in algorithm implementation, data structures, UI design, documentation, and data visualization.