Hrishikesh Venkatesh

+44 7913 626854 hv122@ic.ac.uk linkedin.com/in/hrishi-v/ github.com/hrishi-v

Summary — Third-year Electronic and Information Engineering Student at Imperial College London, currently undertaking a summer internship. Working in various programming languages, such as C++ and Python. Key university projects include developing a C90 compiler and RISC-V processor in SystemVerilog.

Technical Competencies

Automation Bash, Python, YAML, GitHub Actions
Cloud AWS, Microsoft Azure
Languages Python, C++, SystemVerilog, JavaScript
Technologies Quartus, LTSpice, Ubuntu
Databases SQL, DynamoDB, Cosmos DB
Data Science PyTorch, Tensorflow, Pandas

Recent Experience

HSBC **Jun 2024 - Present**
Software Engineer
- Working as part of the GPS (Global Payments Services) team.
- Developing automations in Python and Pandas to manipulate Jira incident data, improving workflow efficiency.
- Refactoring ZeroTouch, a server certificate tracking and updating program, resulting in an 87% reduction in LOC.
- Using Flask apps to improve integration with pre-existing web services.
- Using Confluence, Jira and GitHub for project management,
- Learning about ITIL and Incident Management in DevOps, used in data analysis projects.

Education

Imperial College London **Oct 2022 - Jun 2026**
Masters in Electronic and Information Engineering
Notable modules: Instruction Architectures and Compilers (73), Information Processing (72), Discrete Maths (70).

Heckmondwike Grammar School ***Sep 2020 - Jun 2022***
A-Levels
*A*A*AA in Further Maths, Maths, Physics and Chemistry.*

Projects

RV32-IM Processor ***Oct - Dec 2023***
- *Developed the C++ testbenches for various modules as well as the overall processor.*
- *Developed the top-level module in SystemVerilog, employing both skills in hardware and software development.*
- *As a group of 4, we achieved the highest score in the cohort.*
- *Tested our design in hardware using Quartus and an FPGA.*

C90 Compiler ***Jan - Mar 2024***
- *Wrote a C90 compiler in C++*
- *Developed the arithmetic and type compilation, covering ints, floats, doubles, chars and strings.*
- *Worked as part of a pair, utilising Git version control and pair programming techniques.*
- *Passed all seen test cases, as well as 84% overall, one of the highest scores in the cohort.*

FPGA Game Design Project ***Jan - Mar 2024***
- *Developed a fully functioning split-screen multiplayer game of Tetris in Unity, learning C# for the first time.*
- *Integrated an accelerometer with Serial UART interface written in Quartus into the game to use a DE10 for control.*
- *Utilised an EC2 instance complete with a FastAPI server and DynamoDB database, in order to store high scores and player records.*
- *Worked as part of a team of 6, requiring clever timelines and Agile development.*

Athora Balancing Robot ***May - Jun 2024***
- *The final product was able to use real-time appearance based mapping to scan, pathfind through and traverse an area.*
- *Worked in a multi-disciplinary team, covering software development, computer vision and control engineering.*
- *Developed a Flask app that incorporated Gamepad API. This allowed us to collect data and manually control the robot.*
- *Used embedded programming to convert the received packets of information into motor controls.*
- *Set up an Azure VM and Cosmos DB instance to store battery information and other mission critical data.*

Other Skills

Languages
- *Tamil - Fluent (Mothertongue)*
- *English - Fluent*
- *French - Beginner*