

HRISHIKESH VENKATESH

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Education

Imperial College London

Masters in Electronic and Information Engineering

Modules: Instruction Arch. and Compilers (73), Info. Processing (72), Discrete Maths (70).

Oct 2022 - Jun 2026

Second Year: 69.8%

Heckmondwike Grammar School

A-Levels

A*A*AA in Further Maths, Maths, Physics and Chemistry.

Sep 2020 - Jun 2022

Recent Experience

HSBC

Software Engineer, Intern

Jun 2024 - Present

- Refactored a server certificate tracking and updating program, resulting in an **87% reduction** in LOC using Pandas.
- Automated an existing semi-automated process, reducing employee time requirement from 10 to 1 minute, using Python.
- Utilised python-calamine to reduce CSV read times by **83%**.
- **Leveraged knowledge** of Python, Pandas, Batch scripts and Git to automate data manipulation processes.

Projects

RV32-IM Processor

Oct - Dec 2023

- Designed the C++ testbenches for various modules as well as the overall processor.
- Implemented the top-level module in SystemVerilog, employing skills in hardware and software development.
- Built a CI/CD workflow with YAML and GitHub Actions.
- As a group of 4, we achieved the highest score in the cohort.
- **Utilised** SystemVerilog, C++ and YAML to produce a virtual RISC processor.

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.
- **Utilised** C++, Python and Git.

FPGA Game Design Project

Jan - Mar 2024

- Produced 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 using Quartus into the game to use a DE10 for control.
- Established an EC2 instance with a FastAPI server and DynamoDB database, in order to store player records.
- **Utilised** C, Python, SystemVerilog and Git.

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.
- 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.
- **Utilised** JavaScript, Python, SQL and embedded programming.

Extra-curricular Roles

Imperial College Data Science Society

Head of Talent Development

Jun 2024 - Jun 2025

- Responsible for developing lectures and resources to teach other members of the society about data science.
- Developing a lecture series on the basics of ML, including Pandas and Tensorflow.

Technical Competencies

Automation Bash, Python, YAML, Batch

Cloud AWS, Microsoft Azure

Languages Python, C++, SystemVerilog, JavaScript

Technologies Quartus, LTSpice, Ubuntu

Databases SQL, DynamoDB, CosmosDB

Data Science PyTorch, Tensorflow, Pandas