# KRISHAN SRITHARAR

Website Email GitHub LinkedIn

Inquisitive, energetic 3rd year Computing student skilled in software design and development, with a strong foundation in maths, logic, and coding. Seeking to leverage academic knowledge, solid skills, and knowledge as a software engineer.

## EDUCATION

**Imperial College** of **London** — **MEng Computing** (**AI** and **Machine Learning** stream) (2019-2023)
Performance: **80%** overall — **First Class Honours** in **First** and **Second** years of study

Courses taken: Algorithms Design and Analysis 95%; Compilers 89%; Computer Systems 89%; Mathematics 86%; Programming 83%; Computational Techniques 82%;

**Queens Park Community School** — **A-Level:** Mathematics **A***, Further Mathematics **A***, Computer Science **A***, Physics (AS) **A** (2012-2019)
**GCSE: 11 A*s** with **G9** in Mathematics and English Literature

## WORK EXPERIENCE

**Head of Mobile Development** at **Vioo Inc.** (Aug 2021-Present)

- Lead design, development, and deployment of Vioo Inc's first app to complement their web platform
- Delivered project in an 8-week period, under a fast-paced team environment, with regular deadlines
- Daily SCRUM meetings to present progress and plan/design approaches to problems with the CTO
- Connected to Zapier webhooks and WordPress's API to reuse existing backend functionality
- Established a PHP endpoint to connect and poll data securely from the live, company MySQL database
- Managed publishing to Android and iOS devices, and currently maintaining app with 3500+ active users
- Answered questions and took feedback on a development panel at the app's launch presentation

**Undergraduate Teaching Assistant** at **Imperial College London** (Oct 2020-Present)

- Assisting Y1 UG students' learning of C, Java, Kotlin and Haskell during weekly timetabled sessions
- Guiding them using examples and previous experience to develop easily followable approaches

## PROJECTS and PROGRAMMING SKILLS

**Tutor Me - Online Tutoring Platform** web app created using **JavaScript** and **Kotlin** (May-Jul 2021)

- RESTful API created with Spring Boot, communicating to a PostgreSQL database and a VueJS frontend
- Established server-less group video conferencing with WebRTC framework to create reliable Peer-to-Peer connections. WebSockets and AJAX were used appropriately to create dynamic, responsive pages
- Iterated with a Human Centred Design approach where user journeys and feedback drove each cycle

**WACC -** Fully functional **compiler** written completely **from scratch** using **Kotlin** (Jan-Mar 2021)

- Lead a team of 4 creating all stages of a compiler, with optimisations and code generation to ARM assembly, for a Turing-complete variant of the simple While family of languages
- Followed a Kanban workflow management pipeline with continuous testing and large-scale git usage

**Pintos - Concurrent, VM** supported **OS framework** extended using **C** (Oct-Dec 2020)

- Learnt about low-level OS operations by implementing processor scheduling algorithms, priority donation and creating processes for user-level system calls, all in a heavily concurrent setting
- Developed a synchronized, virtual memory implementation from scratch, aided by tools I developed, notably a stress tester using Golang to reduce the time taken for tests to run by 800%

**Online Multiplayer Chess** with **AI - Web Development** using **Golang** and **JavaScript** (Sep 2020)

- Developed a chess engine and an AI player from scratch with Golang, and hosted this on an interactive and responsive web-app I built and deployed, with online and local multi player support
- Used Hugo Templating for efficient HTML generation and followed the minimax algorithm for the AI

**CFlow -** A **TensorFlow** equivalent **library** written **from scratch using C** in **2 weeks** (Jun 2020)

- Decomposed the overall problem and tackled complex sections through a mix of individual and pair-programming. Coordinated status of required work and testing regime using a Trello board
- Achieved a working demo of the XOR problem and started training on the MNIST dataset

**Programming Skills -** Proficient in: **C**, **Java**, **Python**, **Flutter**, **Golang**, **Kotlin**, **JS**, **HTML**, **SQL** and **Haskell**

- Self-taught Python programmer - developed a mental maths, platformer-style game for aiding students' learning as part of my A-Level Project, which had documentation with over 90,000 words
- Leader of year-long CREST project on modelling gravity using a Monte Carlo random walk simulation

## INTERESTS, SKILLS and ACTIVITIES

- Private Tutor for GCSE students in Mathematics and Physics. Organise and plan regular sessions to build topics from the students understanding whilst incorporating experiences, to maximise efficient learning
- Computer Science Academic mentor during A-Levels, regularly volunteered to teach/support students
- Awarded a professionally accredited Level 4 Diploma in Trading and Financial Market Analysis
- Bilingual proficiency in English and Tamil, with elementary proficiency in Spanish