CHARLES JAKE DICKIE

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Education

Imperial College London   **September 2019 – Present**
MEng Computing (Artificial Intelligence and Machine Learning)   *London, UK*
- Averaging First Class (transcript available on request).

Radley College   **September 2013 – June 2018**
Secondary School   *Oxford, UK*
- A-levels: Maths, Further Maths, Physics, Chemistry : A*A*A*A, GCSEs: 10 A*s. Student Mentor, Social Prefect, Further Maths Prize Winner (2018).

Experience

Mandarin Oriental Hotel Group   **August – September 2018**
Software Engineer Intern   *Atlanta, GA, USA*
- Developed automated testing tools to evaluate the performance of the loyalty program login page using UI Path.
- Supported the engineering of test suite web interface using Django and ReactJS.
- Utilised Python to generate and send test reports to team members.

Operation Wallacea   **July – August 2017**
Research Assistant   *Cusuco National Park, Honduras*
- Conducted significant conservation research with university postgraduates.
- Gathered primary data to calculate the carbon credit of Cusuco National Park, a Meso-American biodiversity hotspot and Key Biodiversity Area.
- Collaborated in developing the carbon credit incentivization scheme to rehabilitate environmentally threatened areas.

PricewaterhouseCoopers   **May 2016**
Accounting Intern   *London, UK*
- Prepared team members for meetings by accumulating and structuring data.
- Shadowed client meetings, summarising key points and acquiring mediation skills.

Projects

Low-Latency Design Patterns for High Frequency Trading | *C++*   **September 2021 – Present**
- Currently:
  * Implementing a low-latency high frequency trading application with multiple trading strategies.
  * Benchmarking low-latency design patterns with aims to document said design patterns and publish results.
  * Communicating with industry professionals at *qSpark* to receive guidance.

CodeCity | code-city.herokuapp.com | *Django, Bootstrap, Vue.js, Three.js* **May – June 2021**
- Created a foundational computer science learning platform that encourages engagement by gamifying interaction via a city building game.
- Developed web application via agile development, focusing on stakeholder feedback to drive development cycles.
- Used a continuous integration pipeline for automated testing and deployment.

WACC Compiler | *Java, ANTLR Library*   **January – March 2021**
- Implemented a fully functional compiler for a turing complete language WACC ("whack") using Java and the ANTLR library.
- Features common language constructs such as program variables, simple expressions, conditional branching, looping, loop controls, types, functions, arrays, tuples, function overloading, classes, side effect expressions, inclusions and more.
- Full syntactic and semantic checking with appropriate error messages and suggestions.
- Four stage compilation process: lexical, syntactic and semantic analysis followed by code generation.
- Used a continuous integration pipeline for automated testing and deployment.

Pintos | *C*   **September – December 2020**
- Implemented features of Pintos, an operating system written in C.
- Implemented priority scheduling and donation, multi-feedback and priority schedulers, user program interface (system calls such as halt, exit, exec etc.), argument passing, pointer validation, executable access, virtual memory via paging, page and frame management and memory mapping.