# Lewis Ng

3rd year MEng student at Imperial College London

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## EDUCATION

### Imperial College, London — *MEng (4 Years)  Computing (2:1)*

OCTOBER 2019 - PRESENT

### Birkenhead School

SEPTEMBER 2012 - JULY 2019

## PROJECTS

### Simple Chess AI – link

SEP 2021 - OCT 2021

- Final implementation is a depth 3 minMax algorithm using alpha-beta pruning to reduce the tree complexity. Positional evaluation also used to encourage development of pieces,

### A Really Smart Food App – link

APRIL 2021 - JULY 2021

- App targeted at reducing food waste by suggesting dishes you could cook with the entered ingredients
- Worked on the backend Django server, created best match algorithms and dealt with post requests from the front end
- Used scraping to populate our database with recipes

### WACC Compiler

JANUARY 2021 - MARCH 2021

- Created a full compiler for the WACC language in Scala. Parser + lexer made using Parsley
- Made peephole optimizations for the given instructions set and helped with making an IDE, graph coloring and cross compiling for the Intel instruction set

### Pintos

SEPTEMBER 2020 - DECEMBER 2020

- Built a simple operating system from a minimal framework Implemented kernel threads, scheduler, loading and running user programs, and virtual memory

### ARM11 Group Project – link

MAY 2019 - JULY 2019

- Implemented an ARM11 assembler and emulator
- Built an audio spectrum analyser/visualiser using FFTW and SDL which could be also displayed on an LED matrix with a Raspberry Pi, as an extension
- Tested with our own unit tests and Valgrind

## SKILLS

### Programming Languages

**Proficient skills**:  Java and Python

**Previously used**: C, GDScript, C#, HTML, CSS, JavaScript, Haskell, Prolog, SQL

### Technologies and Tools

**Experienced with**: Linux, JUnit, JavaFX, Parsley and Git

**Familiar with**: LaTeX, Docker, Heroku, ANTLR

## QUALIFICATIONS

**A-levels**

Electronics, Maths, Further Maths, Chemistry – **4A\*s**

**GCSE**

Maths, Further Maths, Chemistry, Biology, English Lit/Lang, Physics, Art, DT Systems, French – **11 A\*s**

## LANGUAGES

English

Cantonese, French (Intermediate)