

Lewis Ng

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EDUCATION

Imperial College London

Masters of Engineering in Computing

June 2023

First Class Honours

- **Corporate Partnership Programme Award** - 86% in the final year project.
- **Relevant courses:** Computational Finance, Deep Learning, Machine Learning for Imaging, Properties of Distributed Ledgers, Reinforcement Learning, Software Engineering for Industry, Simulation and Modelling, Operations Research.

Birkenhead School

A Level: Maths, Further Maths, Chemistry, Electronics

June 2022

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EXPERIENCE

Solidatus, London | Junior Developer | C#, .NET, JS/TS, React, MobX, MongoDB

Apr 2022 – Sep 2022

- Delivered critical hot-fix implementations to clients, reducing time spent merging models by 53%.
- Improved in-house version control, reducing delays in creating pull requests by 98%.
- Analyzed frequent database queries using MongoDBCompass.
- Improved a hot-spot function's performance by 9% using dotTrace.

Kingham and Co | Freelance Web Dev | HTML, CSS, js

Jul 2021 – Sep 2021

- Created 2 websites; one for Kingham and Co and another for the owner's hospitality business.

PROJECTS

Depression Recovery Prediction | Python, Pytorch, Nilearn, scikit-learn

Sep 2022 – June 2023

- Constructed neural network models to predict depression recovery with fMRI scan data during psilocybin therapy.
- Designed novel GNN architecture to exploit the structure of neuro-connectivity graphs.
- Used various dimensionality-reduction methods to mitigate data scarcity constraints.
- Achieved significant predictive performance (Pearson $r = 0.757$) exceeding clinical standard.

Chess AI Bot | Javascript

Sep 2021 – Oct 2021

- Constructed a bot using a depth-10 min-max algorithm, alongside an alpha-beta pruning algorithm.
- Used positional evaluation for a more prudent strategy with more sophisticated piece development.

A Really Smart Food App | Python, Django

Apr 2021 – Jul 2021

- Suggested recipes using the user's existing ingredients to reduce food waste.
- Utilized web scraping to populate the recipe database.

WACC Compiler | Scala, Parsley

Jan 2021 – Mar 2021

- Wrote a full compiler for the WACC language using Scala and Parsley.
- Engineered peephole optimizations for the given instruction set (10% faster) and collaborated with a team to implement an IDE, graph colouring and cross-compiling for the Intel instruction set.

SKILLS

Languages

C/C++, C#, Java, Python, JavaScript/TypeScript, HTML/CSS, \LaTeX , Scala, CoffeeScript, Haskell, SQL

Tools / Libraries / Frameworks

Git/GitHub, Unix Shell, VS Code, IntelliJ IDEA, numpy, OpenCV, PyTorch, React, MobX, Parsley, Docker, Postman, NOSQLBooster, dotTrace, MongoDBCompass