

# Quang Nguyen

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## Education

### BSc (Honours) – Computer Science & Mathematics

University of St Andrews

[ United Kingdom, 9 Sep 2019 – 30 Jun 2022 ]

- One of 20 students eligible for direct entry into second year.
- **First-Class (1:1)** in all modules with Dean's List award (2019/20).
- Average in second year 17.9 / 20.0 ( **4.0 GPA** )

### A – Level (A\* A\* A\* A)

Rossall school

[ United Kingdom, 10 Jan 2018 – 24 Jun 2019 ]

- Subjects: Mathematics, Further Mathematics, Physics, Computer Science.

## Work Experience

### Software Development intern

[ Jul 2020 – Sep 2020 ]

FPT Software

- Lead a team in the final project. Built REST API using Java and Spring.
- Responsible for the front-end including the UI and controllers.
- Helped integrate the front-end and back-end and wrote unit tests.

JSP Servlet Spring Thymeleaf Java Restful API MySQL

### Founding member

[ Jan 2020 – Present ]

Competitive Programming St Andrews

- The team conducted more than 35 weekly contests. I designed over 8 contests with 30+ original questions.
- The problems help participants to improve their proficiency with data structures and algorithms.

Competitive programming Algorithms Data structures Graph theory Number theory C++ Python

## Projects

### Mandelbrot Set Explorer

[ Aug 2020 ]

- A responsive web page, which displays successive magnifications of the Mandelbrot Set.
- Use web worker to run the intensive computations while maintaining the previous calculation to response to users without latency.
- Display set of points with different color tone to indicate how fast they diverge. Distribution of color depends on the frequency at which each iteration number appear in the current frame.

Javascript Mathematics Fractal Statistics Frequency analysis Complex number Multithreading

### Interactive World Map

[ University of Dundee, 2 Feb 2020 ]

- Developed an interactive application to show demographic statistics using APIs for live data.
- I have pushed myself in 24 hours to learn Python GUI (tkinter) from scratch and help produced a full-scale application.

Python3 GUI Hackathon Statistics Data analysis

### Rocket Trajectory Simulation

[ University of St Andrews, Nov 2019 ]

- Designed an application to simulate the trajectory path of an object by applying Newton's law of universal gravitation.
- The program offers various potential use cases for education and to predict collisions between objects.
- Team won the best space theme prize.

C# Unity Mathematics Physics Hackathon

## Achievements

### 2<sup>nd</sup> Place – Facebook UK & Ireland Hack 2020

[ Virtual, Aug 2020 ]

Facebook

### 1<sup>st</sup> Prize – G-Research Coding challenge

[ Univ of St Andrews, Sep 2019 ]

G-Research

### Rank 8/3000 – National Cipher Challenge

[ UK, Oct 2018 – Dec 2018 ]

University of Southampton

- One of 177 teams managed to decrypte all 10 cipher challenges.

### Merit – Senior Kangaroo

[ UK, Dec 2018 ]

UKMT

### Gold Medal – Senior Mathematical Challenge

[ UK, Oct 2018 ]

UKMT

## Programming Languages

3+ years: C++  
2 years: Java Python  
1 year: HTML CSS Javascript

## Fields of Interests

Physics Full-stack Artificial Intelligence  
Game Development Machine Learning  
Algorithms Competitive Programming  
Virtual Reality Data Structures  
Mathematics Statistics