# **Diogo Soares**

Aspiring innovator of software, first year CS student.



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### **EXPERIENCE**

### Race To Deactivate — Shooter RPG

Inspired by the concept of an escape room my friend and I coded a 2D Java game with Swing and OOP principles. We went from discovering the game loop to adding realistic enemies to fight against.

# **Basic Interpreter** — Syntax analysis

Leveraged an interpreter in Python by creating a lexer and parser which supports arithmetic operations. I investigated recursive descent parsers, which led me into a rabbit hole of state machines and automata.

# Feedforward Neural Network — Diabetes prediction

I created a Jupyter Notebook and experimented with TensorFlow and other relevant libraries. I learned about the intricacies of neural networks and tried out different activation functions to achieve an accuracy of 80%.

## **RC Model Plane** — Two flights

As a group of 4 people, we constructed a plane which successfully flew twice for approximately 1 minute. Along the way we learnt lessons about aerodynamics and teamwork.

# **CASTECHDEFELS 2018 SCIENCE WORKSHOPS,** Universitat Politècnica de Catalunya — *Participant*

### **EDUCATION**

# **Eindhoven University of Technology,** Eindhoven — *Computer Science and Engineering*

SEPTEMBER 2023 - PRESENT

I've gathered knowledge in Java and mathematical foundations of discrete structures. Programming has given me confidence with object oriented programming when developing games. Currently taking one of the vital courses, Data Structures. Another course, Foundations of Data Analytics, has taught me the essential Python libraries to deal with this. The degree is set to end in 2026.

### **British School of Barcelona,** Castelldefels — *International A Levels*

**SEPTEMBER 2021 - JUNE 2023** 

Refined Computer Science expertise and implementation of ADTs. It culminated in a final project where I coded a minesweeper game I also touched on Mathematics and Physics, achieving an A for the 3.

### **SKILLS**

Leadership and teamwork gained as my basketball team captain for 4 years. I was responsible for leading warm-ups and motivating the squad.

Technical tools: Experienced with Git, Linux and Vim commands.

#### **AWARDS**

BRONZE CERTIFICATE
Senior Mathematical
Challenge 2022 United Kingdom
Mathematical Trust

Annual Attainment Award 2021/22 Year 12 Computer Science,

Annual Form Group Award 2020/21,

Speech Competition Winner 2016 - The British School of Barcelona

#### **LANGUAGES**

C, Java, SQL and Python.