

Angel Cervera Roldan

MAYNOOTH PURE MATHS AND COMPUTER SCIENCE

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I am a Final Year Pure Mathematics and Computer Science student in Maynooth university, with a strong passion for programming and algorithm design. I enjoy solving complex problems and am excited to apply my skills to new challenges while continuously learning and growing.

Experience

DNA Computing Research

PHYSICS, SOFTWARE ENGINEERING, MATHS, ALGORITHMS

- Further developing summer work as Final Year Project
- Currently writing thesis about summer work
- Currently working on the implementation of a simulation for KTAM + Covers DNA Computing model in Rust

🌐 cgevans/rgrow

Maynooth University

09/2024 to Current

DNA Computing Research Internship

PHYSICS, SOFTWARE ENGINEERING, MATHS, ALGORITHMS

- Contributed to the implementation of a simulator for the Single Scaffolded DNA model in the rgrow library
- Developed experience with rust
- Developed FFI's for python to interact with rust simulator
- Worked on Python library to simplify the interaction with the Rust simulator

🌐 cgevans/rgrow

Maynooth University

2024 Summer

Computer Science Demonstrator

TEACHING

- Demonstrator for first year module 'Introduction to Object Oriented Programming'
- Python and Java

Maynooth University

02/2024 to 05/2024

Geospatial Server in Rust

DATA STRUCTURES AND ALGORITHMS, SOFTWARE DEVELOPMENT

- Implemented a concurrent Geospatial Server with Rust and Scala
- Built and Documented API for clients to use
- Served as proof of concept for future distributed version

SimplexSpatial

12/2022 to 09/2023

TCGLand

WEB DEVELOPMENT

- Migrated part of the websites back end from JavaScript to Golang
- Worked on Golang Web Scrapers
- Implemented Round Robin Load Balancing + Bandwidth Throttle

<https://www.tcg.land/>

09/2022 - 12/2022

Private Math Tutoring

SECONDARY SCHOOL 1 ON 1 TUTORING

Maynooth

09/2024 to Current

Competitions

Competitive Programming Ireland

ADVANCED DATA STRUCTURES AND ALGORITHMS / MATH COMPETITION

University College Cork

Competitive Programming UK and Ireland

ADVANCED DATA STRUCTURES AND ALGORITHMS / MATH COMPETITION

The University of Edinburgh, Scotland

Competitive Programming North Western European

ADVANCED DATA STRUCTURES AND ALGORITHMS / MATH COMPETITION

TU Delft, Netherlands

Side Projects

Rust Mini Parser

 angelcerveraroldan/mini_parser

PROOF OF CONCEPT FOR PURELY FUNCTIONAL PARSER

2024

- Based on paper 'Monadic Parser Combinators' by G Hutton
- Purely functional and immutable
- JSON parser and tokenizer was implemented as an example
- Chainable parsing

Discord Bot

 angelcerveraroldan/cards-bot

GET INFORMATION ABOUT ANY POKEMON CARD DIRECTLY IN YOUR SERVER

2022

- Developed with Golang
- Easily hosted with Docker
- Well documented
- Easy to use, with Discord prompts

Presentations

SPUR Symposium

Maynooth University

PRESENTED MY SUMMER INTERNSHIP WORK ON THE DNA SIMULATOR

2024

Hamilton Research Week Graduate Student Talks

Maynooth University

PRESENTATION EXPLAINING WHAT DNA COMPUTING IS, AND HOW IT WORKS

2024

Skills

Languages Rust, Python, Scala, Go, Java, JavaScript, TypeScript

Spoken Languages English, Spanish

Technologies Linux, Vim, Docker, AirFlow, Spark

Education

Maynooth University

Ireland

PURE MATHS AND COMPUTER SCIENCE

09/2021 to Current

Functional Programming Principles In Scala

Swiss Federal Institute of Technology

ONLINE COURSE

03/2022

Big Data Analysis With Scala And Spark

Swiss Federal Institute of Technology

ONLINE COURSE

04/2022

Christian Brothers Secondary School

Midleton, Cork, Ireland