

# NIKITA PELAGECHA

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## EDUCATION

### University of Warwick | *BSc Hons Computer Science*

Coventry

Sep. 2023 – exp. Jun. 2026

- Achieved a **First-Class Honours** in the first year.
- Placed **3rd** in Warwick and **53rd** nationwide in the **UK & Ireland Subregional Contest** 2023.
- Represented Warwick at the **Northwestern Europe Regional Contest** in Delft.

### University of Reading | *IFP in Mathematics and Computer Science*

Reading

Sep. 2022 – Jun. 2023

- Achieved top marks in Further Maths and Physics (**97%**), Maths (**94%**), and Information Systems and Statistics (**88%**)
- Recognized among the top students in the course with a weighted average of **89.6%**

### Technical Lyceum NTUU "KPI" | *Lyceum specialised in Mathematics and Physics*

Kyiv, Ukraine

Sep. 2015 - Jun. 2022

- Achieved a course average of **11.6/12** with an A\* equivalent in all science subjects.
- Secured **I** place in Physics and **II** across CS, Maths, Chemistry, and Linguistics citywide competitions in 2020 and prior.

## PROJECTS

### Optiver trading simulation challenge (ICHack 2024), powered by Marshall Wace

2024

- Researched trading strategies to optimise a bot using Optiver's API to compete with **50** contesting teams.
- Implemented **Arbitrage** trading strategy to maintain stable, generally positive income over a period of 12 hours.
- Our team placed in the **top 7** out of 50 contesting teams.

### Cellular Automaton / Langton's Ant in Haskell

2024

- Generated an infinite Langton's ant animation using hatch and gloss libraries.
- Created wolfram rule generator using monoidal functions.

### Cancer detection CNN in PyTorch

2023

- Developed and trained a **Convolutional Neural Network** on a vast dataset of images with help of university computing resources.
- Extended **PyTorch** built-in **nn.Module** class to create a custom sequential model.
- Developed a **Flask**-based website to allow for easy verification of an image being cancerous.

### Maze solving robot in Java

2023

- Implemented **Depth First** search with backtracking and proximity detection to find the target in a near optimal number of steps.
- Made use of **graph theory** to discard overlaps in a directed graph - creating an optimal exploration path that even works on loopy mazes.

### LED pong in C

2023

- Implemented joystick control, score system and visualization on a shift register 32x32 pixel rgb LED display.
- Leveraged **pointers** for memory efficiency and **bitwise** manipulation for effective data access.

## WORK EXPERIENCE

### University of Warwick | *Research Intern*

Coventry

Jun. 2024 - Ongoing

- Exploring promising capabilities of **Algorithmic Machine Learning** under supervision of Dr. Long Tran-Thanh
- Collaborating with Dr. Long's research network at the University of Maryland

### Parking App Startup | *CTO & Co-founder*

Coventry / Remote

Dec. 2024 - Ongoing

- Working in a team of 4 students to provide an intuitive parking solution
- Built a working demo in Swift (Xcode), currently transferring to multi-platform **React Native**

### Camp Kinder Ring | *Archery Specialist*

Hopewell Junction, NY

Jun. 2023 – Aug. 2023

- Managed the archery department, resulting in a **50%** attendance growth - teaching 500 people
- Cooperated in organizing various events and games in a **team of 200**

### The Rupert Brooke | *Food and Beverage Assistant*

Cambridge

Mar. 2022 – Sep. 2022

- Cooperated seamlessly with colleagues to provide exceptional service to **50-100** guests daily
- Assisted in training new staff members, contributing to a more efficient and cohesive team

### Palace of children's and youth creativity (radio electronics) | *Volunteer Work*

Kyiv, Ukraine

Sep. 2019 – Nov. 2019

- Assembled and soldered circuit boards for various projects, achieving functional and durable outcomes
- Used **Arduino** and **C++** in a practical setting

## TECHNICAL SKILLS

**Technical Skills:** *Proficient:* Java, Python, git,  $\LaTeX$ ; *Familiar:* C/C++, Haskell, HTML/CSS, MySQL, bash.

**Developer Tools:** VScode, Xcode, PyCharm, IntelliJ, Github

**Languages:** Ukrainian(native), English(fluent), Russian(fluent)