

MARTIN PIALA

+44 7597 285 083 ◇ martin.piala17@imperial.ac.uk

EDUCATION

Imperial College London, MEng. in Computing

2017 - 2021

Gymnazium Velka Okruzna 22, Zilina, Slovakia

2013 - 2017

- Grammar School
- Maths Class, Graduated with the best academic results possible in Maths, Computing and Physics
- **Top 20** in a national round of Olympiad in Informatics
- Finalist in national round of Olympiad in Mathematics
- **1st place** in national robotics competition

WORK EXPERIENCE

ADTS s.r.o.

2014-2017 during summer
Networking assistant
Zilina, Slovakia

- Installation of Fire detection systems in buildings
- Setting up CCTV cameras and intrusion detections systems
- Creating Python scripts to automatize the process of setting up the cameras

POSITIONS OF RESPONSIBILITY

Robotics society

2016-2017

- Leading **robotics society** at high school
- Mentoring younger students
- Preparing for competitions

Teaching

2015-2017

- Teaching younger students **Maths, Computing and Physics**

PROJECTS

Handwritten digits recognition

- Program could **read handwritten digits** written on paper and shown to the computers web-camera
- Utilising neural network in **digit recognition** process, net trained using MNIST dataset of handwritten digits
- Project completely written in **Python using Numpy** library

Pawn race with AI

- Pawn race game playable **both** by **human** and **computer** player
- For **Artificial Intelligence** which plays the game the **iterative deepening** depth first search of **minimax** decision tree was implemented
- Various **optimisations** were made, such as **alpha-beta pruning** and utilizing a **hash-map** of already searched boards, so each state of the game would be searched only once
- Board was internally represented as 64-bit number, so every move can be calculated using only **bit operations**
- Whole project was written in **Java**

Robotic car controlled over the Internet

- Real-time **video stream** from a camera mounted on the robotic car

- **Real-time remote control** of the robotic car using web interface built using **Bootstrap** and **Javascript**
- Robot controls are written in pure **C**
- Server handling communication is written in **Python** on Raspberry Pi

Home intrusion detection system

- **Custom hardware** intrusion detection system
- **Sms notifications** via GPRS module
- Real-time **data collection** from various sensors (temperature, motion detection, etc...)
- Built using 8-bit micro-controllers
- Software written in **C**

Music Visualiser

- **Custom hardware** lights reacting to music with software written in **C**
- Source of the sound connected to the main unit via 3.5mm jack
- Group of led lights visualised different ranges of frequencies played through the main unit, which analysed the sound waves
- **Logarithmic relationship** between loudness and power of sound was taken in the count

SKILLS AND INTERESTS

Interests

Programming Languages

Other Skills

Competitive Programming, Robotics, Frisbee, Martial Arts, Rubik's Cube Solving
Python, Haskell, Java, C, C++, Pascal
Latex, Unix systems, Git, Vim, Photoshop, Bash, AWS