STEFAN-ALEXANDRU CUTURELA

Tel: (+44) 07936699031   Email: stefan.cuturela16@imperial.ac.uk   GitHub: http://github.com/StefanAlexC

Education:

Imperial College London
2016 - 2020

➢ **MEng Computing (Software Engineering) (Expected result 1st – Over 70%)**
➢ **Modules:** Haskell Programming (A+ - 80%), Java Programming (A* - 90%), C Programming, Hardware, Architecture, Logic, Reasoning about Programs, Mathematical Methods, Discrete Mathematics, Algorithms, Presentation Skills.

"Tudor Vianu" National High School of Computer Science
2012 - 2016

➢ **Best computer science-focused high school in Romania**
➢ **Finished in the top 5%** of my year grade wise, with 10/10 in mathematics and computer science each of the 4 years
➢ **Romanian baccalaureate diploma (overall grade 9.75/10)**, Computing (10/10), Mathematics (9.85/10)

Work Experience:

Ines Group
Summer 2015

Forward Deployed Engineer – Internship
➢ Set up and performed maintenance for both servers and computers belonging to clients.
➢ Proposed and implemented the moving of client's machines, which were not running essential Windows programs to a Unix based Operating System.
➢ Saved money for clients, by cutting unnecessary Windows Licenses and boosted the performance of the computers.
➢ Led a team to wire and set up a server and the associated computers for an entire office floor.

Group Projects:

**Space Jump
IC-Hack**
2017

➢ **C#** sharp game that utilizes the Unity Engine and that incorporates various gameplay elements from different classic games.
➢ Taught myself how to program in **C#** and how to use the Unity Development Software in the span of 24 hours.

Robot Localisation Website
2017

➢ Led a group of four people to develop a website that presents the topic of Robot Localisation and Mapping.
➢ Presented difficult subjects such as the Kinect Fusion Algorithm and the physics principles behind depth cameras in an approachable manner suitable to a wider audience.

**MIT-NASA
Zero Robotics**
2015

➢ Led a team to developed an AI algorithm to control SPHERES robots to simulate satellites taking pictures of planets.
➢ Implemented the movement algorithm of the satellite using the provided API.
➢ Overcame the challenges of fuel management and of force computation for our thrusters in order move the robot, while dodging debris and solar flares.

Individual Projects:

Turtle Interpreter
2017

➢ **Java** project that allows users to draw pictures using a Turtle Graphics System, which is directed with LOGO commands.
➢ Incorporated a class hierarchy that allows the user to extend the number of types of turtles and their behaviours.
➢ Honed skills of working with interfaces, abstract classes and numerous subclasses.

Spreadsheet Application
2017

➢ Java application that allows users to create and to manipulate spreadsheets.
➢ Implemented formula cycle detection and automatic updating of the cells as new equations are inputted.
➢ Improved skills of developing large scale applications.

Self-Navigating Robot 2017	➤ Built a robot that navigates autonomously through a room utilising two ultrasound sensors. It is controlled using a Raspberry Pi on which I have loaded my **Python** movement algorithm. ➤ Created a complex circuit diagram that utilizes an H-Bridge to power the motors, while shielding the Raspberry from damaging currents.
Sequential Lock Mechanism 2017	➤ Created a sequential circuit that functions as a safe locking mechanism, using D-Type Flip-Flops to encode the State Machine and the State Transition Tables. ➤ The hardest part was minimising the silicon area of the obtained circuit ➤ Implemented a **C++** program that uses a Back-Tracking based algorithm to obtain an optimal Karnaugh Map minimization.
Haskell L-Systems 2016	➤ Created a **Haskell** program which utilizes L-Systems to guide a turtle robot in creating a fractal shape ➤ Improved skills of automatically generating data, by starting from an "axiom" (the initial seed) and extending upon it infinitely to create an unending pattern.
Expression Evaluator 2016	➤ **Haskell** project that evaluates inputted equations. ➤ Incorporated interesting mathematical capabilities like differentiating and calculating Maclaurin Series.
High School Feedback Webpage 2016	➤ Developed an official school website using **PHP**, **HTML**, **CSS** and **SQL**. ➤ Improved teacher-parent communication and that helped student better voice their concerns about the courses.

Significant Achievements:

2010 – 2016 **Participated in the National Computer Science Olympiad** of Romania and summed up a total of **2 Silver Medals**, **1 Bronze Medal**, and most notably, in the 9th grade I **placed 6th in the country** and received a **Gold Medal**.

2014 **Organised the first edition of Bucharest Model NATO Conference**, where I provided a debating environment for over 50 high school students, **rented a suitable location**, **found sponsors and promoted the conferenc**e on a local news channel.

2014 **Volunteered on a weekly basis** as a mathematics **tutor for underprivileged foster care children**.

Programming Languages:

Java, **C++**, **C**, **C#**, **Haskell**, **Python**, **PHP**, **JavaScript**

Foreign Languages:

➤ **English**: Proficient user (C2 level)
➤ **Romanian**: Proficient user (C2 level)
➤ **French**: Intermediate user (B1 level)

Interests:

Handball	Captain of school team, with which I played competitively at a local level. Still play recreationally.
American Football	Play competitively in the university's team at a national level, in the BUCS Tier 1 League.
Cooking	Member of university Culinary Society.