



# COLIN LAGANIER

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Third year design engineering student looking to further develop my skills and apply them during a 6-month placement starting April 2021.

## ||| EDUCATION

- 2018-present **Imperial College London** | *MEng Design Engineering*  
Modules include: Computing, Design, Electronics, Materials, Mechanics, Robotics, Thermodynamics.
- 2015-2018 **Lycée Français Jean Monnet, Brussels** | *French Baccalauréat*  
Scientific Track – Computer Science specialty – 17.05/20 (Très Bien)

## ||| WORK EXPERIENCE

- Summer 2020 **Imperial College London** | *Full Stack Developer*
- Paid ten-week internship to create the Imperial student-run makerspace hardware and software.
  - Built, tested and deployed the online platform - controlling an IOT machinery permissions system and 3D printing farm - optimizing workflow and reducing energy use.
  - Created the backend with Node.js and the Express.js framework, and implemented multiple REST APIs.
- Technologies:** Node.js, React.js, Express.js, MongoDB, HTML5, CSS3, Git, Raspberry Pi, Linux
- Summer 2019 **Loop** | *Front End Developer*
- Paid five-week internship in an artificial intelligence-based event-technology start-up.
  - Created a web dashboard for users to see current and past events data - shared photos, playlist, attendees.
  - Increased platform usage by 25% over the following month.
- Technologies:** React.js, HTML5, CSS3, Git
- Summer 2016 **Parrot SA** | *Job Shadowing*
- Shadowed in a leading drone company's R&D department – evaluated the influence of materials on the flight of drones and analysed physical properties of different drone designs.

## ||| EXTRACURRICULAR ACTIVITIES

- 2020-present **Imperial Entrepreneurs** | *Treasurer*
- Led financial budgeting, obtained sponsorships and maintained professional relationships with sponsors - doubled the annual sponsorship from the previous year.
- 2020-present **Design Engineering Society** | *Student Expert*
- Helped and trained students with equipment (CNC, 3D printers, etc.) in the Imperial makerspace.
  - Organized and led Autodesk Fusion 360 CAD workshops for students.
- 2019-present **{Code Club}** | *Python & Robotics Tutor*
- Volunteered to teach a weekly class for children aged 9 to 15 in Fulham Library.
  - Taught basics of coding and ran small projects (remote control car, self-driving, etc.).
- 2019-Present **Imperial Racing Green** | *Seat and Firewall Engineer*
- Redesigned, tested and built the new Electric Vehicle's seat, firewall and low voltage electronics box for the Formula Student Competition – created with a goal of easy upgradability and reduced weight.

## ||| RELEVANT PROJECTS

### **Robo Colorizmo** | *C++, Python, Robotics*

- Second year Mechatronics project, created a 3-axis robotic gripping arm using OpenCV to find and sort coloured cubes.
- Used a Raspberry Pi to run the computer vision program (Python) and an Arduino Uno for the robotic commands (C++).

### **Tetriling Challenge** | *Python*

- Second year Computing project, applied fundamental algorithmic principles: object-oriented programming, greedy algorithm, binary tree search and depth first search.
- Fastest algorithm of the year and ranked among the top 20 in accuracy (95% accurate in 0.004s for 0.7 density 1000x1000 matrix).

### **Cyclone Curler** | *Autodesk Eagle, Keyshot, Solidworks*

- Second year Design Project, created a battery powered curling iron for visually impaired users inspired by a cyclone separator.
- Designed for manufacturing using Solidworks, using FEA, flow simulations and thermal calculations to ensure feasibility.

## ||| SKILLS

### **Programming:**

CSS3, C++, HTML5, JavaScript, MATLAB, Python, SQL

### **Prototyping:**

3D printing, CNC, milling, turning, laser cutting, PCB design

### **CAD:**

Inventor, Fusion 360, Solidworks – CAM, FEA, Generative Design

### **Languages:**

French (C2+), English (C2+), Spanish (B2), Chinese (B1)