Vito Cipponeri

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Education

Gonville and Caius College, University of Cambridge (MEng) Oct. 2022 – June 2026

- Working towards an MEng
- Grade: Year 1 (1st Class)
- Modules in the first two years include mechanics, linear systems, thermodynamics, structures, electrical, materials, and mathematics.

Finchley Catholic High School, London Sept. 2015 - Jul. 2022

- A level: Physics (A*); Mathematics (A*); Further Mathematics (A*); Chemistry (A*)
- GCSEs: 7 (Grade 9); 2(Grade 8); 1(Grade 7)

Coursework projects

Integrated Design Project

- ★ Worked as a project manager and software sub-team lead to design and build an AGV which moved around, located and identified blocks of different densities and then delivered them to their respective locations.
- ★ Ensured efficient communication between the mechanical electrical and software teams and ensured the project was completed on time by delegating tasks throughout.
- ★ Using the Arduino interface and C++ implemented software for a robot using Arduino to follow lines and detect block density by processing data coming from the various sensors designed by others.

CAD and Engineering drawings

- ★ Designed a rollercoaster with a gravity simulation included in Solidworks.
- ★ Participated in a course to learn out proper conventions of how to produce engineering drawings.

Programming Projects

Python

- ★ Flood warning system for the UK which collects real-time data from APIs which then displays places most at risk for flooding.
- ★ Multiple data processing programs to numerically calculate the results of experiments. Examples include boundary layer analysis to find C_d, and materials analysis to find whether Tresca or Von Mises yield criterion is more valid.

C++

- ★ Implemented aerodynamics and mechanics physics for a rover to orbit or land on Mars. Using PID control, coded in an autopilot function to land a rover safely or for it to hover in space.

Assembly

- ★ Coded a PIC microcontroller to carry out basic tasks in terms of outputting digital signals and implementing delays.

Lego Mindstorms

- ★ Designed a PID-controlled machine that could measure the static coefficient of friction.
- ★ Had a self-reset ability such that it could take multiple repeat readings and get a good value of friction.

Structural design project

- ★ Designed and produced a cantilever with a safety factor of 2 which could hold 1350N at the working load.
- ★ Used beam theory to ensure the load would cause it to fail at 2700N.
- ★ Produced detailed engineering drawings to ensure no ambiguity between parties involved.
- ★ Gained experience in machining by using various tools.

Electrical thermometer

- ★ Designed and built an analogue thermometer based on thermistor voltage swing which would light up LEDs based on the temperature.
- ★ Included the use of capacitors for bypass, opamps for amplification and MOSFETs for other various tasks.
- ★ Fully documented the circuit in LTSpice.

Presentations skills

- ★ Technical presentations include the working of Maglev trains, the first case of human civilization and whether research funding should be so liberal.
- ★ Outreach presentations to large crowds have removed my fear of public speaking.
- ★ Multiple lab reports have been written up in Latex and included Excel or Python data processing.

Summary Statment

- 2nd year engineer with an extensive and varied interest in engineering and working on various personal projects. I can work at a high level at all times and ensure everything is done to the best quality of my ability. Love to have conversations about what it can bring to the future and the effect it has.
- Working knowledge of **MS Office**;**Python**;**C++;Solidworks;Latex**
- Languages **English** (Native);**Italian**(Intermediate/Advanced) **Cantonese** (Beginner)

Experience

Junior Carpenter, Edwardian Hotels, London (Part-time) Jun 2022 –Aug 2023

- Worked as a tradesman on renovations in the hotel collection.

Commis Waiter, Edwardian Hotels, London (Part-time) Jul 2021 – Dec 2021

- Worked as a waiter developing skills on how to deal with guests and complaints. Learned how to work in fast-paced stressful environments.

Extra-curricular

Riveria Racing - Propulsion Team Sept 2023 - present

- An engineering-based society where we are working as a team to create a hydrogen-powered 0-emissions boat for a race in the summer.
- Mainly working on strut design and analysis of the flow around it and the stresses within it. Modelling is done in Solidworks and simulations are run on Simscale using CFD and FEM.
- Collaborating with industry-leading companies such as Lateral and Marin.

Automated plant pot

- Personal project in the process whereby using an Arduino, a herb farm can grow autonomously and with very little human interaction.
- Over time will conduct different experiments to as which level of moisture is beneficial to certain plants.

Climbing and kayaking Oct. 2022 - present

- Kayaking - Trained in safety and working to become a qualified coach.
- Climbing - Slowly working up towards the stage of teaching others how to climb.

Young Leader volunteering, 22nd and 23rd Southgate Scout Group Sep 2018 - Jul 2021

- Worked with a group of volunteers to take on sessions to teach young children life skills.
- Planned lots of activities, running games and camps frequently.
- Developed lots of teamwork and communication skills while working towards deadlines.

Referee

Dr Amoghavarsha Mahadevegowda, Director of Studies, Gonville & Caius College, University of Cambridge, UK. am2729@cam.ac.uk