

Paul Cohen | Mechanical Design Engineer

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Hard-working and highly motivated engineer, with key strengths in CAD modelling, structural analysis and project management. Pursuing a career in the areas of product and machine design, with a focus on sustainable engineering.

Education

Emmanuel College, University of Cambridge

Cambridge, UK

*M.Eng. Mechanical Engineering, **Distinction***

2013–2017

Covered a general engineering syllabus for the first two years, before specialising in mechanical design in the final year. Achieved 1st class grades in all years.

Massachusetts Institute of Technology

Cambridge MA, USA

*Cambridge-MIT Exchange, **GPA 4.9/5.0***

2015–2016

Specialised in mechanical design and manufacturing, including precision machine design, finite element analysis, electromechanical system design, and design for manufacturing, as well as an English literature course at Harvard.

Haberdashers' Aske's Hatcham College

New Cross, London, UK

*A-level: Maths, Further Maths, Physics, Chemistry, **A*s***

2011–2013

Experience

Vocational

Alloy Product Development

San Francisco CA, USA

Mechanical Engineering Intern

Nov 2017 – Nov 2018

Alloy Product Development is a mechanical design consultancy based in San Francisco, California. They specialise in innovative mechanism design and tightly-packaged consumer electronics, working at all stages of the product development process. An initial 3-month internship was extended twice, to the maximum 1 year allowed by the visa. Responsibilities and activities included:

- Ownership of a complex mechanical subsystem for 9 months, designed to withstand high stresses (250kg load, 12 year outdoor lifetime, high-voltage electronics). Providing onsite support at the client as part of a 10-person team from Alloy; liaising with vendors in China, managing quality control and tooling modifications; pushing design changes for DFM and DFA purposes; designing test plans and rigs to meet regulatory requirements; managing priorities and expectations with the client in weekly meetings.
- Prototyping new designs and test rigs in metal, plastics, and wood using hand-tools, CNC machines and additive manufacturing processes.
- Designing and building custom test rigs to validate client engineering requirements; writing scripts in Python for automatic data analysis and presentation.
- Extensive use of top-down 'master modelling' practices in Creo 3.0 CAD software and use of ANSYS FEA software.

Frazer-Nash Midhurst

Petersfield, UK

Mechanical Engineering Intern

Jul-Sep 2016

Frazer-Nash is a precision engineering and design company that specialises in the food industry. I worked in both the drawing office and on the factory floor. Responsibilities included:

- Developing the concept design for a 3D-printed horseshoe. Modelling in Autodesk Inventor and Magics; setting up and running builds on Renishaw AM250 SLM machine; working closely with stakeholders to inform design.
- Turning parts on a manual lathe from engineering drawings. Included various materials (stainless and alloy steels, aluminium bronze, aluminium), to tolerances as low as 0.013mm.
- Detailing engineering drawings of parts and assemblies, to be machined in house.

Global Maritime Consultancy Ltd.

London, UK

Intern

Aug-Sep 2016

A marine, offshore and engineering consultancy. Based in the Design department, I worked with Naval Architects, Civil Engineers and Draughtspersons. Projects undertaken included:

- Using Autodesk Inventor to create parametric models to be used in concept design visualisations.
- Investigating the stress analysis capabilities of Inventor compared with GeniE, by recreating a crane pedestal in each programme and applying systematic tests.
- Verifying and modifying calculation tools for vessel structure design.
- Applying quality assurance controls to ensure compliance with American Bureau of Shipping classifications.

Miscellaneous and Voluntary

Self-employed

London, UK

Maths and Physics Tutor

Jan 2019 – present

Tailoring lessons to each student to help them achieve their potential, specialising in A-level and IB Physics and Maths.

Samos Volunteers

Samos, Greece

Volunteer

Sep 2019

Samos Volunteers provides psychosocial support for asylum seekers who are trapped in dangerous conditions in the refugee camp on Samos. I helped them deliver their services - teaching lessons in their adult learning centre, washing laundry to improve basic hygiene, and assisting the smooth running of the community centre.

Oxfam Bookshop

Greenwich, London, UK

Store volunteer

Jan 2019 – Jun 2019

Oxfam is an international charity fighting poverty around the world, known for its distinctive and high-quality charity shops. I worked 2 days a week at their bookshop in Greenwich, where I was in charge of stocking and managing the Academic section of the bookshop as well as dealing with customers and sorting donations.

Projects

University of Cambridge

Cambridge University Eco Racing

Oct 2016 – Oct 2017

CUER is a student organisation that designs, builds, and races solar powered vehicles. As one of two co-heads of the mechanical team, I was responsible for the design and fabrication of various mechanisms and structural parts, including the solar panel reconfiguration system, door mechanism, and key structural components. I was also responsible for leading and mentoring a design team of 8 students

Massachusetts Institute of Technology

2.009: The Product Design Process

Sep – Dec 2015

Technical team leader for the development for an innovative rock climbing product, as part of team of 22 students.

- Chaired team meetings; organised subteams; designed and prototyped concepts; managed \$6500 budget.
- Fielded technical questions from audience of 1100. Voted 2nd out of 8 teams by audience.
- Obtained provisional patent on technology.

Skills and Awards

Languages

- French
- C++
- Python
- Matlab
- Excel VBA

3D Modelling

- Solidworks
- Inventor
- Creo
- ANSYS
- MasterCAM

Competencies

- Mechanical Design
- Injection Molding
- Project Management
- CAD modelling
- Mill & Lathe machining

Awards

- Ash Senior Scholarship
- Wallace Prize
- Rowley Mainhood prize
- College prize (Emmanuel)
- Frank Marriott Scholarship

Interests

I am a keen cyclist, rock climber and bike polo player. I spent the last 8 months training for the NorthCape4000, a 4400km single-stage cycling race from Turin to North Cape, coming 6th out of 130 starters. I also enjoy listening to jazz, tinkering with bicycles, reading, spending time in museums, and exploring new cities.

References

Available upon request.