

Alessandra French

alessandra.french@some.ox.ac.uk • +44 7957 953636 • Cambridge, UK

EDUCATION

University of Oxford, Oxford UK

Oct 2021 - present

MEng in Engineering Science

Expected June 2026

First Class Honours in Part A and Part B

Part B exam marks: 77 overall, including 92 in Information Systems and 88 in Control Systems

3rd Year Project on Modular Prosthetic Limbs: SoleMate

**On leave March 2024 – Dec 2024 for orthopedic hip surgery*

The Perse Sixth Form College, Cambridge UK

2019 - 2021

4 A Levels in Maths, Further Maths, Physics, Chemistry

*Achieved grades A*A*A*A**

AWARDS AND HONOURS

Institute of Engineering Technology (IET) Boost Scholarship, Future Talent Award (Dec 2023)

Somerville College Scholarship (2024-2025) Awarded by the Somerville College Oxford Education Committee for academic performance

Somerville College Scholarship (2022-2023) Awarded by the Somerville College Oxford Education Committee for academic performance

IET Diamond Jubilee Scholarship (Oct 2021)

Gold Industrial Cadetship Award, Gold Crest Award Awarded for an Engineering Education Scheme project, included designing a Python web app (April 2020)

ACADEMIC WORK EXPERIENCE

EPSRC Research Internship, Oxford UK

July – Sept 2023

- Competitively selected for one of 15 Engineering and Physical Sciences Research Council-funded summer research internships at Oxford University's Engineering Department (10 weeks).
- Developed a Python-based solver to compute the LQR-optimal nonlinear controller for a nonlinear dynamical system in a model-free context.
- Applied to nonlinear systems that admit finite-dimensional linear representations by selecting appropriate nonlinear observable functions on the state to form a Koopman-invariant subspace
- Analyzed rates of convergence with varying uncertainty in the polynomial degree of the system dynamics

MathWorks Minidrone Competition

June 2023

- Awarded 3rd place out of 152 teams competing from Europe, the Middle East, and Africa
- Competition where I used MATLAB and Simulink to program a drone to use an onboard camera and real-time control strategies to follow a previously unseen path and land on a landing pad

WORK EXPERIENCE

Maths & Physics Tutor, Cambridge UK

2020 – present

Private Tutor

- Teach maths and physics to two Year 10 students during my school holidays, prepared them for secondary school entrance exams and currently preparing them for GCSEs

AstraZeneca, Cambridge UK

August 2019

Intern

- Learned about bioinformatics and computational chemistry

Cambridge University Hospitals: Addenbrooke's, Cambridge UK

July 2019

Healthcare Science Intern

- Work experience in multiple departments; core placement in neurophysiology

Vesper MEMS, Boston MA

July 2018

Engineering intern

- Intern at a nanotechnology company developing microphones
- Conducted experiments on the durability of a MEMS microphone; assessed the prototypes for any structural damage before and after tests using a powerful microscope, tested response to sound

SKILLS

Programming languages: MATLAB (proficient), Python (proficient), C++ (intermediate)

Languages: French (intermediate), Portuguese (beginner), Spanish (beginner)

Other Skills: Simulink & Stateflow, SolidWorks, BenchVue

EXTRACURRICULAR ACTIVITIES

Oxford University Mixed Martial Arts Club

Oct 2022 – present

- Varsity Team, Oxford vs Cambridge Annual Varsity Women's Champion (March 2024)
- Awarded Somerville College Sports Award (Feb 2025)
- We train martial arts including Wrestling, BJJ, Boxing, Muay Thai
- Women's Officer, Welfare Officer (Dec 2023 – March 2024) – started women's only MMA classes

Gym Renovation Committee, Somerville College Oxford

Feb – Nov 2023

- Selected by the Somerville College Oxford Junior Common Room Committee to renovate college gym
- Including repainting, purchasing powerlifting equipment, and replacing dangerous equipment
- Required project planning, budgeting, public speaking, and teamwork

Volunteer Computer Science Teacher, Cambridge UK

Sept. 2018 – April 2019

- Volunteer teacher to 30 4th grade students in computer programming using BBC: Micro Bit
- Taught at Queen Edith and Fen Ditton Primary Schools

***** I am a US Citizen and have Indefinite Leave to Remain in the UK (UK Home Student Fee Status) *****